

Weiss 08/851,420

=> file medline

FILE 'MEDLINE' ENTERED AT 11:56:11 ON 12 AUG 1998

FILE LAST UPDATED: 11 AUG 1998 (19980811/UP). FILE COVERS 1966 TO DATE.

THE MEDLINE FILE WAS RELOADED FEBRUARY 15, 1998, TO REFLECT THE ANNUAL MESH (MEDICAL SUBJECT HEADING) CHANGES. ENTER HELP RLOAD FOR DETAILS.

THIS FILE CONTAINS CAS REGISTRY NUMBERS FOR EASY AND ACCURATE SUBSTANCE IDENTIFICATION.

=> d his

FILE 'MEDLINE' ENTERED AT 11:51:55 ON 12 AUG 1998

L1	3894 S BREATH TESTS/CT
L2	843 S NITRIC OXIDE (L) AN/CT
L3	3966 S CARBON DIOXIDE (L) AN/CT
	E PALATE/CT
L4	1465 S E8
L5	3049 S NASAL CAVITY/CT
	E VELUM/CT
	E VELLUM/CT
L6	446 S L1 AND (L2 OR L3)
L7	2 S L6 AND (L4 OR L5)

FILE 'MEDLINE' ENTERED AT 11:56:11 ON 12 AUG 1998

=> d 17 1-2 all

L7 ANSWER 1 OF 2 MEDLINE
AN 97371496 MEDLINE
DN 97371496
TI Nasal contribution to exhaled nitric oxide during exhalation against resistance or during breath holding.
AU Kharitonov S A; Barnes P J
CS Department of Thoracic Medicine, National Heart and Lung Institute, Imperial School of Medicine, London, UK.
SO THORAX, (1997 Jun) 52 (6) 540-4.
Journal code: VQW. ISSN: 0040-6376.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Cancer Journals
EM 199710
EW 19971001
AB BACKGROUND: The concentration of nitric oxide (NO) is increased in the exhaled air of patients with inflammation of the airways, suggesting that this may be a useful measurement to monitor inflammation in diseases such as asthma. However, there have been concerns that exhaled NO may be contaminated by the high concentrations of NO derived from the upper airways, and that this may account for differences in reported values of exhaled NO using different techniques. A study was performed, with argon as a tracer,

Choon Koh STIC/LIBRARY 308-4133

Page 1

to determine the extent of nasal contamination of exhaled NO using different expiratory manoeuvres. METHODS: Exhaled and nasal NO were measured by a chemiluminescence analyser. Argon (4.8%) was delivered continuously to the nose. Gas was sampled from the posterior oropharynx and argon and carbon dioxide were measured by mass spectrometry at the same time as NO. RESULTS: During a single expiration against a low resistance and during breath holding there was no evidence for nasal contamination, whereas during exhalation without resistance argon concentration in the oropharynx was increased from 0.91% (95% CI 0.84% to 0.98%) in ambient air to 1.28% (0.9% to 2.24%, $p < 0.0001$) during a single breath or 2.37% (2.29% to 2.51%, $p < 0.0001$) during tidal breathing. CONCLUSIONS: Collection of exhaled NO in a reservoir during tidal breathing is likely to be contaminated by NO derived from the nose and this may underestimate any increases in NO derived from the lower respiratory tract in inflammatory diseases. However, with slow expiration against a resistance and created back pressure to close the soft palate, there is no contamination of exhaled air which then reflects concentrations of NO in the lower airways.

CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't

Adult

Airway Resistance

Argon

Biological Markers: AN, analysis

***Breath Tests: MT, methods**

Chemiluminescence

Nasal Cavity

***Nitric Oxide: AN, analysis**

Oropharynx

Spectrum Analysis, Mass

RN 10102-43-9 (Nitric Oxide); 7440-37-1 (Argon)

CN 0 (Biological Markers)

L7 ANSWER 2 OF 2 MEDLINE

AN 97154604 MEDLINE

DN 97154604

TI Marked flow-dependence of exhaled nitric oxide using a new technique to exclude nasal nitric oxide.

AU Silkoff P E; McClean P A; Slutsky A S; Furlott H G; Hoffstein E; Wakita S; Chapman K R; Szalai J P; Zamel N

CS Department of Medicine, the University of Toronto, Ontario, Canada.

SO AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE, (1997 Jan) 155 (1) 260-7.

Journal code: BZS. ISSN: 1073-449X.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Abridged Index Medicus Journals; Priority Journals

EM 199704

EW 19970403

AB Exhaled nitric oxide (NO) may aid in monitoring pulmonary disease. The single-breath NO profile (subjects with nose clip) was described as a NO peak followed by a plateau (NO(PLAT)). Published exhaled NO values vary greatly, possibly due to contamination with nasal NO and differing respiratory maneuvers. We developed a technique to measure pulmonary NO, without nasal NO, by having the subject maintain a positive expiratory pressure (ensuring velum closure), and we

examined the variation in NO(PLAT) over a range of expiratory flows (4.2 to 1,550 ml/s). NO(PLAT) values rose almost 35-fold (3.2 +/- 1.4 ppb to 110.5 +/- 54.8 ppb) with decreasing flow, described by $NO(PLAT) = 208.6795 \times (\text{flow rate})^{-0.5995}$. However, NO excretion showed an almost 11-fold rise as flow increased. In summary, we present a simple technique for measuring exhaled NO without contamination by nasal NO. There is a marked flow dependence of exhaled NO concentration and excretion. Exhaled pulmonary NO is best measured at very low flow rates to amplify the signal and must be related to the expiratory flow employed.

CT Check Tags: Human; Support, Non-U.S. Gov't

Administration, Inhalation

Adolescence

Adult

*Breath Tests: MT, methods

Middle Age

Nasal Cavity: ME, metabolism

*Nitric Oxide: AN, analysis

Nitric Oxide: ME, metabolism

Reproducibility of Results

RN 10102-43-9 (Nitric Oxide)

=> file medline biosis embase wpids japio
FILE 'MEDLINE' ENTERED AT 16:03:58 ON 11 AUG 1998

FILE 'BIOSIS' ENTERED AT 16:03:58 ON 11 AUG 1998
COPYRIGHT (C) 1998 BIOSIS(R)

FILE 'EMBASE' ENTERED AT 16:03:58 ON 11 AUG 1998
COPYRIGHT (C) 1998 Elsevier Science B.V. All rights reserved.

FILE 'WPIDS' ENTERED AT 16:03:58 ON 11 AUG 1998
COPYRIGHT (C) 1998 DERWENT INFORMATION LTD

FILE 'JAPIO' ENTERED AT 16:03:58 ON 11 AUG 1998
COPYRIGHT (C) 1998 Japanese Patent Office (JPO) and Japan Patent
Information Organization (Japio)

=> d his full

(FILE 'HCAPLUS' ENTERED AT 15:36:08 ON 11 AUG 1998)
DEL HIS
E DANESHVAR Y/AU
E SILKOFF P/AU
L1 1 SEA ABB=ON PLU=ON "SILKOFF P"/AU
E MCCLEAN P/AU
L2 4 SEA ABB=ON PLU=ON ("MCCLEAN P"/AU OR "MCCLEAN PATRICIA"
/AU OR "MCCLEAN PATRICIA A"/AU)
E SLUTSKY A/AU
L3 14 SEA ABB=ON PLU=ON ("SLUTSKY A"/AU OR "SLUTSKY A S"/AU
OR "SLUTSKY ARTHUR"/AU OR "SLUTSKY ARTHUR S"/AU)
E FURLOTT H/AU
E HOFFSTEIN E/AU
E WAKITA S/AU
E CHAPMAN K/AU
L4 68 SEA ABB=ON PLU=ON ("CHAPMAN K"/AU OR "CHAPMAN K R"/AU
OR "CHAPMAN KENNETH"/AU OR "CHAPMAN KENNETH R"/AU)
E SZALAI J/AU
L5 7 SEA ABB=ON PLU=ON ("SZALAI J"/AU OR "SZALAI JOHN P"/AU
OR "SZALAI JOHN PAUL"/AU)
E ZAMEL N/AU
L6 8 SEA ABB=ON PLU=ON ("ZAMEL N"/AU OR "ZAMEL NOE"/AU)
L7 0 SEA ABB=ON PLU=ON L1 AND L2 AND L3 AND L4 AND L5 AND
L6
L8 97 SEA ABB=ON PLU=ON (L1 OR L2 OR L3 OR L4 OR L5 OR L6)
L9 16887 SEA ABB=ON PLU=ON BREATH?
L10 6 SEA ABB=ON PLU=ON L8 AND L9
L11 3453 SEA ABB=ON PLU=ON EXHAL?
L12 0 SEA ABB=ON PLU=ON L8 AND L11

FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, JAPIO' ENTERED AT 15:55:00 ON
11 AUG 1998

E DANESHVAR Y/AU
L13 32 SEA ABB=ON PLU=ON "DANESHVAR Y"/AU
L14 32 DUP REM L13 (0 DUPLICATES REMOVED)
L15 1727 SEA ABB=ON PLU=ON (L1 OR L2 OR L3 OR L4 OR L5 OR L6)
L16 1 SEA ABB=ON PLU=ON L14 AND L9
L17 173400 SEA ABB=ON PLU=ON RESPIRATION
L18 1 SEA ABB=ON PLU=ON (L9 OR L17) AND L14

Choon Koh STIC/LIBRARY 308-4133

Weiss 08/851,420

L19 332 SEA ABB=ON PLU=ON (L9 OR L17) AND L15
L20 4642029 SEA ABB=ON PLU=ON ANALY?
L21 62 SEA ABB=ON PLU=ON L19 AND L20
L22 35 DUP REM L21 (27 DUPLICATES REMOVED)

FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, JAPIO' ENTERED AT 16:03:58 ON
11 AUG 1998

FILE MEDLINE

FILE LAST UPDATED: 31 JUL 1998 (19980731/UP). FILE COVERS 1966 TO

THE MEDLINE FILE WAS RELOADED FEBRUARY 15, 1998, TO REFLECT THE ANN
MESH (MEDICAL SUBJECT HEADING) CHANGES. ENTER HELP RLOAD FOR DETAI

THIS FILE CONTAINS CAS REGISTRY NUMBERS FOR EASY AND ACCURATE
SUBSTANCE IDENTIFICATION.

FILE BIOSIS

FILE COVERS 1969 TO DATE.

CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT
FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 22 July 1998 (980722/ED)

CAS REGISTRY NUMBERS (R) LAST ADDED: 22 July 1998 (980722/UP)

FILE EMBASE

FILE COVERS 1974 TO 6 Aug 1998 (19980806/ED)

This file contains CAS Registry Numbers for easy and accurate
substance identification.

FILE WPIDS

FILE LAST UPDATED: 05 AUG 1998

<19980805/UP>

>>>UPDATE WEEKS:

MOST RECENT DERWENT WEEK

199831

<199831/DW>

DERWENT WEEK FOR CHEMICAL CODING: 199826

DERWENT WEEK FOR POLYMER INDEXING: 199828

DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> D COST AND SET NOTICE DO NOT REFLECT SUBSCRIBER DISCOUNTS -

SEE HELP COST FOR DETAILS <<<

>>> DELIMITED FORMAT DALL NOW AVAILABLE <<<

FILE JAPIO

FILE LAST UPDATED: 29 JUN 1998

<19980629/UP>

FILE COVERS 1976 TO DATE.

=> d 116 all

L16 ANSWER 1 OF 1 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD

AN 97-469520 [48] WPIDS

DNN N97-391749

TI Facial mask for protection from cold weather - has front body
portion with transparent zone at eye level and further portions
extending round side of face with brim member, and vapour barrier
across bridge of nose.

Choon Koh STIC/LIBRARY 308-4133

DC P21
 IN **DANESHVAR, Y**
 PA (DANE-I) DANESHVAR Y
 CYC 1
 PI US 5666671 A 970916 (9743)* 11 pp A41D013-00
 ADT US 5666671 A US 94-350473 941207
 PRAI US 94-350473 941207
 IC ICM A41D013-00
 AB US 5666671 A UPAB: 971030

The mask (81) has a frontal body portion (76) for frontally fully covering a face including forehead, chin, right cheek, and left cheek. The frontal body portion has a transparent zone (78) for allowing a user to see out. The mask body also has further body portions (7,80) that extend posteriorly from the frontal body portion over a frontal portion of a scalp and along sides of a face below the scalp, and that have a posterior edge which lies forwardly of the ears.

A brim member (90) is separably mounted on at least one of these further body portions. A vapor barrier member (83) extends laterally across the inner side of the frontal body portion for passing across the cheeks under the eyes and across the bridge of the nose to seal off the breathing area from the eye area.

ADVANTAGE - Prevents direct contact with cold air, moisture, and wind.

Dwg.1/6

FS GMPI
 FA AB; GI

=> d 118 all

L18 ANSWER 1 OF 1 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
 AN 97-469520 [43] WPIDS
 DNN N97-391749

TI Facial mask for protection from cold weather - has front body portion with transparent zone at eye level and further portions extending round side of face with brim member, and vapour barrier across bridge of nose.

DC P21
 IN **DANESHVAR, Y**
 PA (DANE-I) DANESHVAR Y
 CYC 1
 PI US 5666671 A 970916 (9743)* 11 pp A41D013-00
 ADT US 5666671 A US 94-350473 941207
 PRAI US 94-350473 941207
 IC ICM A41D013-00
 AB US 5666671 A UPAB: 971030

The mask (81) has a frontal body portion (76) for frontally fully covering a face including forehead, chin, right cheek, and left cheek. The frontal body portion has a transparent zone (78) for allowing a user to see out. The mask body also has further body portions (7,80) that extend posteriorly from the frontal body portion over a frontal portion of a scalp and along sides of a face below the scalp, and that have a posterior edge which lies forwardly of the ears.

A brim member (90) is separably mounted on at least one of these further body portions. A vapor barrier member (83) extends laterally across the inner side of the frontal body portion for

Choon Koh STIC/LIBRARY 308-4133

Weiss 08/851,420

passing across the cheeks under the eyes and across the bridge of the nose to seal off the **breathing** area from the eye area.

ADVANTAGE - Prevents direct contact with cold air, moisture, and wind.

Dwg.1/6

FS GMPI

FA AB; GI

=> d l14 tot ti

- L14 ANSWER 1 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Device for injecting fluids into arteries - comprises three members with lumens and a blood flow restrictor comprising an inflatable balloon and a tureen.
- L14 ANSWER 2 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Urinal for patients with difficulties going to bathroom for urination - uses tubing to discharge urine into container in bottom zone that is below imperforate portion of partition.
- L14 ANSWER 3 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Humidifier that humidifies areas during heavy use of heaters - comprises includes base, water basin, enclosure, hydrophilic material, exterior blades and fan.
- L14 ANSWER 4 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Facial mask for protection from cold weather - has front body portion with transparent zone at eye level and further portions extending round side of face with brim member, and vapour barrier across bridge of nose.
- L14 ANSWER 5 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Puncture resistant glove - includes puncture resistant layer including series of shields of puncture resistant material which overlap at joints to protect joint, but allow flexing of joint.
- L14 ANSWER 6 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Bleeding prevention unit for open wounds - includes balloon which is adapted to be placed over wound and has lower surface with adhesive layer which sticks to contiguous skin to hold balloon in placed over wound.
- L14 ANSWER 7 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Automatic pill dispenser - has pivoted pill supply bins moved in succession to station where dispensed by manually operated actuator.
- L14 ANSWER 8 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Easy to operate suction and injection system for use in cardiac catheterisation procedures - has slide valve selectively connecting syringe either to catheter or to fluid source and waste fluid disposal device..
- L14 ANSWER 9 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Clean urinary catheter insertion system - has first tube with distal end for placement toward area surrounding urethra and proximal end

connected to distal end of second tube within which urinary catheter is disposed.

L14 ANSWER 10 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Retractable floor for building - has frame supporting floor sections extending between rails supported on poles with staked ends.

L14 ANSWER 11 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Pressure stocking support for legs for treating Varicose veins, vascular incompetence and like - has elastic wrapping layer with joining member confronting marginal edges having strips which overlap and hook portions.

L14 ANSWER 12 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Device for applying pressure to person's groin - has wrap holding pressure-applying member against groin, with wrap having abdomen-wrap portion extending from frontal portion for encircling abdomen.

L14 ANSWER 13 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Airway securing system for use during cardiopulmonary resuscitation - has piece for opening patients mouth in form of walled tube having intubation passage extending lengthwise and source of illumination.

L14 ANSWER 14 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Clean air vacuum cleaner - has non-permeable upright enclosure, suction fan, collection bag and cover bag which collectively remove minute particles from air.

L14 ANSWER 15 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Urinary catheter and support system - has disconnect feature which causes inserted part to remain in bladder.

L14 ANSWER 16 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Toe protector for supporting blanket in bed - has collapsible construction with various accessories e.g. motorised cradle and thermostat-controlled heater.

L14 ANSWER 17 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Device for preventing post-catheterisation wound bleeding - includes first inflatable balloon for disposition exclusively to one of abdomen-side and thigh side of grain line, and second inflatable balloon for disposition to other of abdomen-side and thigh side of grain line.

L14 ANSWER 18 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Inflatable surgical support - comprises balloon means, soft later and layer of soft plastic bubbles sandwiched between two soft plastic layers, used to prevent bed sores etc..

L14 ANSWER 19 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Humidifier for use in cold weather and use of heaters - has rigid part supporting hydrophilic part with lower portion disposed in water filled canal and upper exposed to air.

L14 ANSWER 20 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Wrap for holding pressure-applicator against person's groin after
Choon Koh STIC/LIBRARY 308-4133

cardiac catheterisation - has two inflatable balloons respectively provided on abdomen and thigh sides of groin beneath wrap portions, with buzzer issuing alarm if detected balloon pressure drops.

- L14 ANSWER 21 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Assembly to support seated persons head upright - has strap encircling head of user containing inflatable balloons having flat veneer surface and expandable frontal surface.
- L14 ANSWER 22 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Pressure bandage for wound application - has balloon to prevent bleeding.
- L14 ANSWER 23 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Variable support pad for user of computer keyboard - includes riser between support pad and underlying horizontal surface, with inflatable balloons to set height and angle.
- L14 ANSWER 24 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Automatic pill dispenser with timed delivery to collection point - collects and retains pills which are not removed within a set time period.
- L14 ANSWER 25 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Pill sample illustrator holding medical and patient information - comprises row of pill holding spaces along one side and aligned bands.
- L14 ANSWER 26 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Special cover for endoscope - has distal end that is adapted to be disposed over distal end of shaft, and also includes small hard piece of plastics.
- L14 ANSWER 27 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Medicine box for use in dispensing pills - comprises main body defining internal vol. for pill storage box including pill container receiving weekly supply of pills taken on daily basis and lid rendering.
- L14 ANSWER 28 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Patient invasive appts. securing wrapper - includes cradle inside invasive unit beneath flap U-turned around bridge member.
- L14 ANSWER 29 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Romantic greeting card - has pages joined by line of folding with adhesive zone having strippable sections which protect zones until sticking is required.
- L14 ANSWER 30 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Device for suppressing post-catheterisation wound - has wraps which wrap around person's abdomen, and inflation balloon adapted to be disposed between underlying and overlying zones.
- L14 ANSWER 31 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Therapeutic nasal inhalator - controls amount of airflow between steam chamber and exterior using multi-aperture disc.

L14 ANSWER 32 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
 TI Bearer medical information booklet - has pockets to receive sheets of paper and/or glossy areas for adhesive-backed stickers allowing medical information to be efficiently presented.

=> d 122 1-35 all

L22 ANSWER 1 OF 35 MEDLINE
 AN 1998285820 MEDLINE
 DN 98285820
 TI Exhaled nitric oxide in human lung transplantation. A noninvasive marker of acute rejection.
 AU Silkoff P E; Caramori M; Tremblay L; McClean P; Chaparro C; Kesten S; Hutcheon M; Slutsky A S; Zamel N; Keshavjee S
 CS Department of Respiratory Medicine, and Department of Thoracic Surgery, Faculty of Medicine, University of Toronto, Toronto, Ontario, Canada.
 SO AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE, (1998 Jun) 157 (6 Pt 1) 1822-8.
 Journal code: BZS. ISSN: 1073-449X.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Abridged Index Medicus Journals; Priority Journals
 EM 199809
 EW 19980903
 AB Acute allograft rejection in animals and humans has been associated with increased nitric oxide production in the graft. Exhaled nitric oxide (ENO) measurement is a noninvasive method of assessing inflammation in airway diseases, e.g., asthma, which might be applicable to lung transplant recipients. Over 12 months, ENO of lower respiratory origin was measured in 108 lung transplant recipients with a mean time after transplant of 1,083 d. ENO (mean +/- SEM; ppb) in stable patients (19.5 +/- 1.1; p < 0.001) was not different from that of healthy controls (23.8 +/- 3.2). ENO was significantly higher in episodes of clinical acute rejection (51.1 +/- 6.3) compared with stable patients but not elevated in bronchiolitis obliterans syndrome (18.6 +/- 1.5) or pulmonary infection (25.9 +/- 4.0). A retrospective analysis of bronchoscopy findings and concurrent ENO (n = 99) showed that ENO did not vary according to histological findings (normal, acute rejection grade I, nonspecific inflammatory change) or with a positive BAL culture. ENO was not correlated with differential lymphocyte and neutrophil counts. ENO appears to be a valid marker of clinical acute rejection in human lung transplantation as distinct from infection or bronchiolitis obliterans. Furthermore, bronchoscopic findings in the absence of a clinical illness were not associated with a rise in ENO.
 CT Check Tags: Female; Human; Male
 Adult
 Biological Markers: AN, analysis
 *Breath Tests
 Bronchiolitis Obliterans: ME, metabolism
 Bronchoscopy
 *Graft Rejection: DI, diagnosis
 Graft Rejection: ME, metabolism

*Lung Transplantation

Middle Age

*Nitric Oxide: AN, analysis

Nitric Oxide: ME, metabolism

Respiratory Tract Infections: ME, metabolism

RN 10102-43-9 (Nitric Oxide)

CN 0 (Biological Markers)

L22 ANSWER 2 OF 35 MEDLINE

AN 1998112306 MEDLINE

DN 98112306

TI Evaluation of a ventilation strategy to prevent barotrauma in patients at high risk for acute respiratory distress syndrome. Pressure- and Volume-Limited Ventilation Strategy Group.

AU Stewart T E; Meade M O; Cook D J; Granton J T; Hodder R V; Lapinsky S E; Mazer C D; McLean R F; Rogovein T S; Schouten B D; Todd T R; Slutsky A S

CS Department of Medicine, University of Toronto, Wellesley Central Hospital, ON, Canada.

SO NEW ENGLAND JOURNAL OF MEDICINE, (1998 Feb 5) 338 (6) 355-61.

Journal code: NOW. ISSN: 0028-4793.

CY United States

DT (CLINICAL TRIAL)

Journal; Article; (JOURNAL ARTICLE)

(RANDOMIZED CONTROLLED TRIAL)

LA English

FS Abridged Index Medicus Journals; Priority Journals; Cancer Journals

EM 199804

EW 19980401

AB BACKGROUND: A strategy of mechanical ventilation that limits airway pressure and tidal volume while permitting hypercapnia has been recommended for patients with the acute respiratory distress syndrome. The goal is to reduce lung injury due to overdistention. However, the efficacy of this approach has not been established. METHODS: Within 24 hours of intubation, patients at high risk for the acute respiratory distress syndrome were randomly assigned to either pressure- and volume-limited ventilation (limited-ventilation group), with the peak inspiratory pressure maintained at 30 cm of water or less and the tidal volume at 8 ml per kilogram of body weight or less, or to conventional ventilation (control group), with the peak inspiratory pressure allowed to rise as high as 50 cm of water and the tidal volume at 10 to 15 ml per kilogram. All other ventilatory variables were similar in the two groups. RESULTS: A total of 120 patients with similar clinical features underwent randomization (60 in each group). The patients in the limited-ventilation and control groups were exposed to different mean (+/-SD) tidal volumes (7.2+/-0.8 vs. 10.8+/-1.0 ml per kilogram, respectively; $P<0.001$) and peak inspiratory pressures (23.6+/-5.8 vs. 34.0+/-11.0 cm of water, $P<0.001$). Mortality was 50 percent in the limited-ventilation group and 47 percent in the control group (relative risk, 1.07; 95 percent confidence interval, 0.72 to 1.57; $P=0.72$). In the limited-ventilation group, permissive hypercapnia (arterial carbon dioxide tension, >50 mm Hg) was more common (52 percent vs. 28 percent, $P=0.009$), more marked (54.4+/-18.8 vs. 45.7+/-9.8 mm Hg, $P=0.002$), and more prolonged (146+/-265 vs. 25+/-22 hours, $P=0.017$) than in the control group. The incidence of barotrauma, the highest multiple-organ-dysfunction

score, and the number of episodes of organ failure were similar in the two groups; however, the numbers of patients who required paralytic agents (23 vs. 13, $P=0.05$) and dialysis for renal failure (13 vs. 5, $P=0.04$) were greater in the limited-ventilation group than in the control group. CONCLUSIONS: In patients at high risk for the acute respiratory distress syndrome, a strategy of mechanical ventilation that limits peak inspiratory pressure and tidal volume does not appear to reduce mortality and may increase morbidity.

CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't

Barotrauma: ET, etiology

*Barotrauma: PC, prevention & control

*Hospital Mortality

*Lung: IN, injuries

Middle Age

Multiple Organ Failure: MO, mortality

Positive-Pressure Respiration: AE, adverse effects

*Positive-Pressure Respiration: MT, methods

Pulmonary Ventilation

Respiratory Distress Syndrome, Adult

Risk Factors

Survival Analysis

Tidal Volume

L22 ANSWER 3 OF 35 MEDLINE

AN 1998127688 MEDLINE

DN 98127688

TI Inhibition of exhaled nitric oxide production during sepsis does not prevent lung inflammation.

AU Aaron S D; Valenza F; Volgyesi G; Mullen J B; Slutsky A S; Stewart T E

CS Department of Medicine, University of Ottawa, ON, Canada.

SO CRITICAL CARE MEDICINE, (1998 Feb) 26 (2) 309-14.

Journal code: DTF. ISSN: 0090-3493.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Abridged Index Medicus Journals; Priority Journals

EM 199804

EW 19980404

AB OBJECTIVES: Increases in exhaled nitric oxide have been demonstrated to originate from the lungs of rats after septic lung injury. The aim of this study was to investigate whether treatment with the nitric oxide synthase inhibitor N-nitro-L-arginine methyl ester (L-NAME) would prevent lipopolysaccharide (LPS)-induced increases in exhaled nitric oxide and whether this would have an effect on septic lung inflammation. DESIGN: Prospective, randomized, placebo-controlled animal laboratory investigation. SETTING: University laboratory. SUBJECTS: Male, anesthetized, paralyzed, and mechanically ventilated Sprague-Dawley rats ($n = 27$). INTERVENTIONS: Rats were mechanically ventilated with air filtered to remove nitric oxide (expiratory rate 40 breaths/min, tidal volume 3 mL, positive end-expiratory pressure 0, FIO₂ 0.21). They were then randomized to receive intravenous injections of either L-NAME (25 mg/kg/hr x 4 hrs) ($n = 11$) or saline ($n = 10$). Both groups were again randomized to receive either LPS (Salmonella typhosa: 20 mg/kg i.v. x 1 dose) or an equal volume of saline 5 mins later. Thereafter, exhaled gas was collected in polyethylene bags for

measurements of nitric oxide concentration. After 4 hrs, the rats were killed and the lungs were preserved and examined histologically. To examine the effect of L-NAME and LPS on mean arterial blood pressure, six additional rats underwent the same ventilation protocol with cannulation of the right internal carotid artery so that systemic arterial pressures could be measured. MEASUREMENTS AND MAIN RESULTS: Exhaled gas was collected and measurements of NO concentrations were made using chemiluminescence every 20 mins for 240 mins during ventilation. A total lung injury score was calculated by determining the extent of cellular infiltrate, exudate and hemorrhage. Mean arterial pressure was recorded every 5 mins for 20 mins and then at 20-min periods for 120 mins. Exhaled nitric oxide concentrations increased in all the LPS-treated rats that did not receive L-NAME by 120 mins; a plateau was reached by 190 mins that was approximately 4 times greater than control rats not treated with LPS ($p < .001$). In contrast, rats treated with L-NAME and LPS did not show an increase in exhaled NO. Administration of L-NAME induced a 10-min nonsustained increase in mean arterial pressure in two rats treated with L-NAME followed by LPS. This increase in mean arterial pressure was not seen in two placebo and two LPS-treated rats that did not receive L-NAME. Lung inflammation was significantly worse in the two groups of rats which received LPS compared with the two that did not. L-NAME did not cause lung inflammation in rats that did not receive LPS; however, LPS-treated rats that received L-NAME had more inflammatory interstitial infiltrate ($p < .05$) and a trend toward worse lung injury than did LPS-treated rats that did not receive L-NAME. CONCLUSION: We conclude that L-NAME can inhibit the increase in exhaled NO from the lungs of septic rats, but that this inhibition does not reduce lung inflammation, and may worsen it.

CT Check Tags: Animal; Comparative Study; Male; Support, Non-U.S. Gov't

Analysis of Variance

Breath Tests: MT, methods

Drug Screening

Enzyme Inhibitors: TU, therapeutic use

Lipopolysaccharides: PD, pharmacology

Lung: DE, drug effects

Lung: PA, pathology

Lung Diseases, Interstitial: ET, etiology

Lung Diseases, Interstitial: PA, pathology

*Lung Diseases, Interstitial: PC, prevention & control

*Nitric Oxide: AI, antagonists & inhibitors

Nitric Oxide: AN, analysis

Nitric-Oxide Synthase: AI, antagonists & inhibitors

NG-Nitroarginine Methyl Ester: TU, therapeutic use

Prospective Studies

Random Allocation

Rats

Rats, Sprague-Dawley

Salmonella typhi

*Sepsis: CO, complications

Sepsis: ME, metabolism

RN 10102-43-9 (Nitric Oxide); 50903-99-6 (NG-Nitroarginine Methyl Ester)

CN EC 1.14.13.39 (Nitric-Oxide Synthase); 0 (Enzyme Inhibitors); 0 (Lipopolysaccharides)

L22 ANSWER 4 OF 35 MEDLINE
 AN 1998105329 MEDLINE
 DN 98105329
 TI Bile salt-stimulated lipase and digestion of non-breast milk fat.
 AU McClean P; Harding M; Coward W A; Prentice A; Austin S;
 Weaver L T
 CS M. R. C. Dunn Nutrition Unit, Cambridge, United Kingdom.
 SO JOURNAL OF PEDIATRIC GASTROENTEROLOGY AND NUTRITION, (1998 Jan) 26
 (1) 39-42.
 Journal code: JL6. ISSN: 0277-2116.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 199804
 EW 19980403
 AB BACKGROUND: 13 Carbon (¹³C)-lipid **breath** tests are an effective, noninvasive way of repeatedly measuring fat digestion. The purpose of this study was to assess the contribution of bile salt-stimulated lipase (BSSL) in human milk to the digestion of non-breast-milk fat in Gambian infants. METHODS: Twelve Gambian infants (aged 3-8 months) were studied on 4 days. ¹³C-Trioctanoin (7.5 mg/kg, digested by BSSL preduodenal and pancreatic lipases) and ¹³C-cholesteryl octanoate (25 mg/kg, digested by BSSL and pancreatic lipases) were used as substrates. The percentage dose recovery (PDR) of ¹³C in **breath** during 5 hours was compared after ingestion of each substrate with fresh, expressed breast milk (FBM) or heated, expressed breast milk (HBM). Gas isotope ratio-mass spectrometry was used to measure ¹³C enrichment, and breast milk samples were **analysed** for esterase activity. RESULTS: Heating breast milk significantly decreased esterase activity (mean +/- SD values: FBM = 12.2 +/- 2.9 IU/ml; HBM = 0.5 +/- 0.3 IU/ml), and there was no difference in the volumes of milk ingested on each test day (approximately 50 ml). The PDR of ¹³C was comparable to that previously described in healthy English infants and was not increased by BSSL. The mean +/- SD PDR of ¹³C from trioctanoin was 36.3 +/- 8.4% for FBM and 34.6 +/- 6.3% for HBM (NS). From cholesteryl octanoate, the mean +/- SD PDR of ¹³C was 24.3 +/- 8.7% for FBM and 27.1 +/- 7.5% for HBM (NS). CONCLUSIONS: Bile salt-stimulated lipase may enhance fat digestion in younger or malnourished infants who have a greater degree of pancreatic enzyme deficiency. However, this study suggests that it does not increase the digestion of non-breast-milk fat in healthy, well-nourished infants aged 3 to 8 months from an underprivileged background, who typically ingest frequent small quantities of breast milk.
 CT Check Tags: Human; Support, Non-U.S. Gov't
 Carbon Isotopes
 *Cholesterol Esterase: ME, metabolism
 Cholesterol Esters: ME, metabolism
 *Dietary Fats: ME, metabolism
 *Digestion
 Gambia
 Heat
 Infant
 *Milk, Human: EN, enzymology
 Octanoic Acids: ME, metabolism
 Triglycerides: ME, metabolism

RN 1182-42-9 (cholesteryl octanoate); 538-23-8 (tricaprylin)
 CN EC 3.1.1.- (bile salt-stimulated lipase); EC 3.1.1.13 (Cholesterol Esterase); 0 (Carbon Isotopes); 0 (Cholesterol Esters); 0 (Dietary Fats); 0 (Octanoic Acids); 0 (Triglycerides)

L22 ANSWER 5 OF 35 MEDLINE DUPLICATE 2
 AN 97216062 MEDLINE
 DN 97216062
 TI Injurious ventilatory strategies increase cytokines and c-fos m-RNA expression in an isolated rat lung model.
 AU Tremblay L; Valenza F; Ribeiro S P; Li J; **Slutsky A S**
 CS Division of General Surgery, The Toronto Hospital, Canada.
 SO JOURNAL OF CLINICAL INVESTIGATION, (1997 Mar 1) 99 (5) 944-52.
 Journal code: HS7. ISSN: 0021-9738.
 CY United States
 DT (CLINICAL TRIAL)
 Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Abridged Index Medicus Journals; Priority Journals; Cancer Journals
 EM 199706
 EW 19970602
 AB We examined the effect of ventilation strategy on lung inflammatory mediators in the presence and absence of a preexisting inflammatory stimulus. 55 Sprague-Dawley rats were randomized to either intravenous saline or lipopolysaccharide (LPS). After 50 min of spontaneous **respiration**, the lungs were excised and randomized to 2 h of ventilation with one of four strategies: (a) control (C), tidal volume (Vt) = 7 cc/kg, positive end expiratory pressure (PEEP) = 3 cm H2O; (b) moderate volume, high PEEP (MVHP), Vt = 15 cc/kg; PEEP = 10 cm H2O; (c) moderate volume, zero PEEP (MVZP), Vt = 15 cc/kg, PEEP = 0; or (d) high volume, zero PEEP (HVZP), Vt = 40 cc/kg, PEEP = 0. Ventilation with zero PEEP (MVZP, HVZP) resulted in significant reductions in lung compliance. Lung lavage levels of TNFalpha, IL-1beta, IL-6, IL-10, MIP-2, and IFNgamma were measured by ELISA. Zero PEEP in combination with high volume ventilation (HVZP) had a synergistic effect on cytokine levels (e.g., 56-fold increase of TNFalpha versus controls). Identical end inspiratory lung distention with PEEP (MVHP) resulted in only a three-fold increase in TNFalpha, whereas MVZP produced a six-fold increase in lavage TNFalpha. Northern blot **analysis** revealed a similar pattern (C, MVHP < MVZP < HVZP) for induction of c-fos mRNA. These data support the concept that mechanical ventilation can have a significant influence on the inflammatory/anti-inflammatory milieu of the lung, and thus may play a role in initiating or propagating a local, and possibly systemic inflammatory response.

CT Check Tags: Animal; Male; Support, Non-U.S. Gov't
 Blotting, Northern
 Bronchoalveolar Lavage Fluid: CH, chemistry
 Enzyme-Linked Immunosorbent Assay
 Genes, fos
 Inflammation: IM, immunology
 Interferon Type II: AN, analysis
 Interferon Type II: IM, immunology
 Interleukin-1: AN, analysis
 Interleukin-1: IM, immunology
 Interleukin-10: AN, analysis
 Choon Koh STIC/LIBRARY 308-4133

Interleukin-10: IM, immunology
 Interleukin-6: AN, analysis
 Interleukin-6: IM, immunology
 Lipopolysaccharides: PD, pharmacology
 *Lung: IM, immunology
 *Lung: PA, pathology
 Lung Compliance
 Macrophage Inflammatory Protein-1: AN, analysis
 Macrophage Inflammatory Protein-1: IM, immunology
 *Positive-Pressure Respiration: AE, adverse effects
 Positive-Pressure Respiration: MT, methods
 Proteins: AN, analysis
 Rats
 Rats, Sprague-Dawley
 RNA, Messenger: AN, analysis
 Tumor Necrosis Factor: AN, analysis
 Tumor Necrosis Factor: IM, immunology
 RN 130068-27-8 (Interleukin-10); 82115-62-6 (Interferon Type II)
 CN 0 (Interleukin-1); 0 (Interleukin-6); 0 (Lipopolysaccharides); 0
 (Macrophage Inflammatory Protein-1); 0 (Proteins); 0 (RNA,
 Messenger); 0 (Tumor Necrosis Factor)

L22 ANSWER 6 OF 35 MEDLINE
 AN 97154604 MEDLINE
 DN 97154604
 TI Marked flow-dependence of exhaled nitric oxide using a new technique
 to exclude nasal nitric oxide.
 AU Silkoff P E; McClean P A; Slutsky A S; Furlott H G;
 Hoffstein E; Wakita S; Chapman K R; Szalai J P; Zamel
 N
 CS Department of Medicine, the University of Toronto, Ontario, Canada.
 SO AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE, (1997
 Jan) 155 (1) 260-7.
 Journal code: BZS. ISSN: 1073-449X.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Abridged Index Medicus Journals; Priority Journals
 EM 199704
 EW 19970403
 AB Exhaled nitric oxide (NO) may aid in monitoring pulmonary disease.
 The single-breath NO profile (subjects with nose clip) was
 described as a NO peak followed by a plateau (NO(PLAT)). Published
 exhaled NO values vary greatly, possibly due to contamination with
 nasal NO and differing respiratory maneuvers. We developed a
 technique to measure pulmonary NO, without nasal NO, by having the
 subject maintain a positive expiratory pressure (ensuring vellum
 closure), and we examined the variation in NO(PLAT) over a range of
 expiratory flows (4.2 to 1,550 ml/s). NO(PLAT) values rose almost
 35-fold (3.2 +/- 1.4 ppb to 110.5 +/- 54.8 ppb) with decreasing
 flow, described by NO(PLAT) = 208.6795 x (flow rate) (-0.5995).
 However, NO excretion showed an almost 11-fold rise as flow
 increased. In summary, we present a simple technique for measuring
 exhaled NO without contamination by nasal NO. There is a marked flow
 dependence of exhaled NO concentration and excretion. Exhaled
 pulmonary NO is best measured at very low flow rates to amplify the
 signal and must be related to the expiratory flow employed.

CT Check Tags: Human; Support, Non-U.S. Gov't
Administration, Inhalation
Adolescence
Adult
*Breath Tests: MT, methods
Middle Age
Nasal Cavity: ME, metabolism
*Nitric Oxide: AN, analysis
Nitric Oxide: ME, metabolism
Reproducibility of Results
RN 10102-43-9 (Nitric Oxide)

L22 ANSWER 7 OF 35 MEDLINE DUPLICATE 3
AN 96279780 MEDLINE
DN 96279780

TI Asthma on Tristan da Cunha: looking for the genetic link. The
University of Toronto Genetics of Asthma Research Group.
AU Zamel N; McClean P A; Sandell P R; Siminovitch K A;
Slutsky A S
CS Department of Medicine, University of Toronto, Ontario, Canada.
SO AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE, (1996
Jun) 153 (6 Pt 1) 1902-6.
Journal code: BZS. ISSN: 1073-449X.

CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 199610

AB Although asthma has a significant heritable component, the mode of inheritance remains controversial because of the complexity of the disease and the influence of environmental factors. Isolated, inbred populations serve to reduce variability, thus increasing the probability of gene localization. We studied the inbred population of the remote island of Tristan da Cunha to document asthma prevalence for the purpose of genetic linkage **analysis**. Medical histories and skin atopy were determined on 282 islanders, representing 97% of the population, and airway responsiveness was measured in 254; 226 by methacholine challenge (tidal **breathing** method) and 28 by bronchodilator response (400 micrograms salbutamol aerosol). Blood samples were collected from 275 islanders. Participants ranged in age from 3 to 94 yr. Asthma was defined as increased airway responsiveness (AR+: PC20 < 4 mg/ml or > or = 15% increase in FEV1 postbronchodilator) combined with a positive history (Hx+). Fifty-seven percent of the islanders had at least partial evidence of asthma (Hx+ and/or AR+) and 23% had a definitive diagnosis of asthma (AR+ with Hx+). Overall 47% of the population were atopic, atopy was proportionally higher in asthmatics (74%) than nonasthmatics (32%; p < 0.01).

Analysis of the methacholine dose-response curves demonstrated that asthmatics were significantly (p < 0.01) more responsive than those with AR+ only, and nonasthmatics (AR-, Hx-) were more responsive than laboratory control subjects (p < 0.05), suggesting that these islanders may also carry an airway hyperresponsiveness gene. A frequency plot of the percent fall in FEV1 for all Hx- subjects compared with control data suggests a bimodal distribution consistent with a major gene mechanism for airway responsiveness. Genealogy mapping revealed that the islanders

are direct descendants of the 15 original settlers, and historical records suggest at least two founders may have been asthmatic. The data confirm previous reports of a high asthma prevalence on Tristan and support the postulate that this prevalence is a result of gene enrichment occurring in isolated populations by virtue of extensive inbreeding and a probable founder effect.

CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't

Adolescence

Adult

Age Distribution

Aged

Aged, 80 and over

Allergens: DU, diagnostic use

Asthma: EP, epidemiology

*Asthma: GE, genetics

Atlantic Ocean

Bronchoconstrictor Agents: DU, diagnostic use

Child

Child, Preschool

Consanguinity

Forced Expiratory Volume

Founder Effect

Linkage (Genetics)

Methacholine Chloride: DU, diagnostic use

Middle Age

Prevalence

Sex Distribution

Skin Tests

RN 55-92-5 (Methacholine Chloride)

CN 0 (Allergens); 0 (Bronchoconstrictor Agents)

L22 ANSWER 8 OF 35 MEDLINE

DUPLICATE 4

AN 96326003 MEDLINE

DN 96326003

TI Tracheobronchial constriction in asthmatics induced by isocapnic hyperventilation with dry cold air.

AU Juli'a-Serd'a G; Molfino N A; Califaretti N; Hoffstein V; Zamel N

CS Department of Medicine, University of Toronto, Ontario, Canada.

SO CHEST, (1996 Aug) 110 (2) 404-10.

Journal code: D1C. ISSN: 0012-3692.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Abridged Index Medicus Journals; Priority Journals; Cancer Journals

EM 199611

AB Although it is well known that isocapnic hyperventilation (IHV) with dry cold air produces airway constriction in asthmatic subjects, the site of airway narrowing is nuclear. To address this issue, we have quantified the tracheal and bronchial response to IHV with dry cold air in 15 patients with mild asthma and 7 healthy control subjects. We employed the acoustic reflection technique to evaluate changes in airway cross-sectional areas caused by IHV with dry cold air. Airway areas were measured during tidal breathing before and 5 to 10, 30, 60, and 90 min following cold air challenge. For analysis purposes, airway areas were divided into three anatomic segments: extrathoracic tracheal segment, intrathoracic

tracheal segment, and main bronchial segment. These segments were assessed at a fixed volume below total lung capacity. Maximal and partial expiratory flow-volume curves were also obtained before each set of area measurements. In normal subjects, IHV with dry cold air caused no significant changes in FEV1, flow at 30% of the vital capacity in the partial curve (V30p), or airway areas. In asthmatics, at 5 to 10 min after challenge, we found that FEV1 decreased by 22 +/- 5% (mean +/- SEM) ($p < 0.0001$), V30p by 33 +/- 8% ($p < 0.003$), intrathoracic tracheal area by 10.7% +/- 2% ($p < 0.03$), and main bronchial area by 14 +/- 3% ($p < 0.003$). At 30 min, tracheal and main bronchial areas were returned to baseline levels; however, FEV1 and V30p were still significantly decreased, by 13 +/- 3% and 16 +/- 4%, respectively. We conclude that in asthmatics, IHV with dry cold air causes both tracheal and bronchial constriction, and that recovery seems to occur first in the central airways.

CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't

Acoustics

Adult

*Asthma: PP, physiopathology

*Bronchoconstriction

Carbon Dioxide: PH, physiology

*Cold

Constriction, Pathologic

Forced Expiratory Volume

*Hyperventilation

Maximal Expiratory Flow Rate

Peak Expiratory Flow Rate

Total Lung Capacity

*Trachea: PP, physiopathology

Vital Capacity

RN 124-38-9 (Carbon Dioxide)

L22 ANSWER 9 OF 35 MEDLINE

AN 97022821 MEDLINE

DN 97022821

TI Stable isotope studies of pancreatic enzyme release in vivo.

AU Seal S; McClean P; Walters M; Wolfe S P; Harding M; Coward

W; Littlewood J M

CS Regional Paediatric Cystic Fibrosis Unit, St James' University Hospital, Leeds, UK.

SO POSTGRADUATE MEDICAL JOURNAL, (1996 Mar) 72 Suppl 2 S37-8.

Journal code: PFX. ISSN: 0032-5473.

CY ENGLAND: United Kingdom

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 199702

EW 19970204

CT Check Tags: Comparative Study; Female; Human; Male

Breath Tests

Carbon Isotopes

Child

Colon: ME, metabolism

*Cystic Fibrosis: ME, metabolism

Cystic Fibrosis: TH, therapy

*Gastrointestinal Transit

Hydrogen: AN, analysis

Choon Koh STIC/LIBRARY 308-4133

*Ileum: ME, metabolism
 *Lipase: DU, diagnostic use
 Lipolysis
 *Pancreatic Extracts: DU, diagnostic use
 *Pancreatin: ME, metabolism
 RN 1333-74-0 (Hydrogen); 53608-75-6 (pancrelipase); 8049-47-6
 (Pancreatin)
 CN EC 3.1.1.3 (Lipase); 0 (Carbon Isotopes); 0 (Pancreatic Extracts)

L22 ANSWER 10 OF 35 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
 AN 96096489 EMBASE
 TI Stable isotope studies of pancreatic enzyme release in vivo.
 AU Seal S.; McClean P.; Walters M.; Wolfe S.P.; Harding M.;
 Coward W.; Littlewood J.M.
 CS Reg. Paediatric Cystic Fibrosis Unit, St James' University Hospital,
 Leeds, United Kingdom
 SO Postgraduate Medical Journal, (1996) 72/SUPPL. 2 (S37-S38).
 ISSN: 0032-5473 CODEN: PGMJAO
 CY United Kingdom
 DT Journal
 FS 006 Internal Medicine
 007 Pediatrics and Pediatric Surgery
 030 Pharmacology
 048 Gastroenterology
 037 Drug Literature Index
 LA English
 CT EMTAGS: congenital disorder (0315); pharmacokinetics (0194);
 diagnosis (0140); digestive system (0935); mammal (0738); human
 (0888); male (0041); female (0042); clinical article (0152);
 controlled study (0197); school child (0016); child (0022); oral
 drug administration (0181); conference paper (0061); enzyme (0990)
 Medical Descriptors:
 *cystic fibrosis: CN, congenital disorder
 drug release
 breath analysis
 lipolysis
 enzyme activity
 gastrointestinal tract
 human
 male
 female
 clinical article
 controlled study
 school child
 oral drug administration
 conference paper
 Drug Descriptors:
 *pancreas enzyme: DO, drug dose
 *pancreas enzyme: PK, pharmacokinetics
 stable isotope
 kreon: DO, drug dose
 kreon: PK, pharmacokinetics
 pancrelipase: DO, drug dose
 pancrelipase: PK, pharmacokinetics
 RN (pancrelipase) 83869-36-7
 CN Creon; Pancrease

L22 ANSWER 11 OF 35 MEDLINE
 AN 95187422 MEDLINE
 DN 95187422
 TI Increased nitric oxide in exhaled gas as an early marker of lung inflammation in a model of sepsis.
 AU Stewart T E; Valenza F; Ribeiro S P; Wener A D; Volgyesi G; Mullen J B; Slutsky A S
 CS Department of Medicine, Samuel Lunenfeld Research Institute Mount Sinai Hospital, Toronto, Ontario, Canada..
 SO AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE, (1995 Mar) 151 (3 Pt 1) 713-8.
 Journal code: BZS. ISSN: 1073-449X.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Abridged Index Medicus Journals; Priority Journals
 EM 199506
 AB Nitric Oxide (NO) has been implicated in the pathologic vasodilation of sepsis. Because NO can be measured in the exhaled gas of animals and humans, we hypothesized that increases in exhaled NO would occur in a septic model. Using a blinded design, 10 male Sprague-Dawley rats (300 to 400 g) were anesthetized, paralyzed, tracheotomized, and randomized (5/group) to receive an intravenous injection of either lipopolysaccharide (LPS) (Salmonella typhosa, 20 mg/kg) or placebo (equal volume of saline). Thereafter, exhaled gas was collected and measurements of NO concentration were made using chemiluminescence every 20 min for 300 min during ventilation (RR 40 breaths/min, VT 3 ml; PEEP 0, FIO2 0.21). Another group of 10 animals (5 LPS; 5 control) were treated in the same fashion and then killed at 240 min and an arterial blood sample obtained for blood gas and TNF alpha determinations. Pressure volume (PV) curves were constructed and lungs removed, preserved, and submitted for histologic evaluation. LPS-treated rats had lower mean arterial pressures than the control group, $p < 0.0001$. No significant differences in static lung compliance and PV curves were found in the two groups. TNF alpha levels were greater in the LPS group (1.40 +/- 0.24 ng/ml) versus control group (0.09 +/- 0.04 ng/ml), $p < 0.001$. By contrast to the control group, exhaled NO concentration rose in all LPS-treated rats at approximately 100 min and at about 160 min reached a plateau that was 6 times greater than control levels ($p < 0.0001$). There was greater interstitial, airspace, and total lung injury in the LPS group ($p = 0.01$). (ABSTRACT TRUNCATED AT 250 WORDS)
 CT Check Tags: Animal; Comparative Study; Male; Support, Non-U.S. Gov't
 Amino Acid Oxidoreductases: ME, metabolism
 Biological Markers: AN, analysis
 Carbon Dioxide: BL, blood
 Chemiluminescence
 Double-Blind Method
 Lipopolysaccharides
 Lung: ME, metabolism
 *Lung: PA, pathology
 *Nitric Oxide: AN, analysis
 Nitric Oxide: ME, metabolism
 NADPH Dehydrogenase: ME, metabolism
 Oxygen: BL, blood
 Random Allocation

Rats
Rats, Sprague-Dawley
Respiration, Artificial
Salmonella typhi
Sepsis Syndrome: ET, etiology
*Sepsis Syndrome: ME, metabolism
Tumor Necrosis Factor: AN, analysis
RN 10102-43-9 (Nitric Oxide); 124-38-9 (Carbon Dioxide); 7782-44-7 (Oxygen)
CN EC 1.14.13.39 (Nitric-Oxide Synthase); EC 1.4. (Amino Acid Oxidoreductases); EC 1.6.99.1 (NADPH Dehydrogenase); 0 (Biological Markers); 0 (Lipopolysaccharides); 0 (Tumor Necrosis Factor)

L22 ANSWER 12 OF 35 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
AN 94031915 EMBASE
TI Medical personnel's knowledge of and ability to use inhaling devices: Metered-dose inhalers, spacing chambers, and **breath**-actuated dry powder inhalers.
AU Hanania N.A.; Wittman R.; Kesten S.; **Chapman K.R.**
CS 4-011 ECW, 399 Bathurst Street, Toronto, Ont. M5T 2S8, Canada
SO CHEST, (1994) 105/1 (111-116).
ISSN: 0012-3692 CODEN: CHETBF
CY United States
DT Journal
FS 015 Chest Diseases, Thoracic Surgery and Tuberculosis
037 Drug Literature Index
LA English
SL English
AB Background: Current treatment strategies for asthma and chronic obstructive pulmonary disease (COPD) emphasize the inhalation route, yet patients often misuse metered-dose inhalers (MDI). To address this problem, patient education by medical personnel has been recommended and a variety of alternate inhaler devices have been developed. Methods: We surveyed medical personnel to assess their knowledge of and ability to use three widely used inhaler devices; MDI, MDI with a spacing chamber (Aerochamber, Trudell Medical, Canada), and a **breath**-actuated multidose dry powder inhaler (Turbuhaler, Astra Pharmacy, Inc., Canada). Thirty respiratory therapists (RT), 30 registered nurses (RN), and 30 medical house staff physicians (MD) were asked to demonstrate the use of each device using placebo inhalers and to answer 11 clinically relevant questions related to the use and maintenance of the tested devices. Results: The RT's percent mean knowledge score (67 \pm 5 percent) was significantly higher than those achieved by either the RNs (39 \pm 7 percent) or the MDs (48 \pm 7 percent) (for all $p < 0.0001$). Similarly, percent mean demonstration scores for each device were significantly higher for RTs than either RN or MD groups; for MDI, 97 \pm 3 percent versus 82 \pm 13 percent and 69 \pm 24 percent, respectively ($p < 0.0001$); for the Aerochamber, 98 \pm 2 percent versus 78 \pm 20 percent and 57 \pm 31 percent ($p < 0.0001$); and for the Turbuhaler, 60 \pm 30 percent versus 12 \pm 23 percent and 21 \pm 30 percent ($p < 0.0001$). Knowledge of and practical skills with the devices were roughly proportional to the length of time the device had been in clinical use, Turbuhaler demonstration scores being lower than either MDI or Aerochamber scores ($p = 0.05$ and $p = 0.09$, respectively). More RTs (77 percent) had received formal instruction on the use of devices at school than

Choon Koh STIC/LIBRARY 308-4133

Page 19

either RNs (30 percent) or MDs (43 percent) ($p < 0.05$). Conclusion: We conclude that (1) many medical personnel responsible for monitoring and instructing patients in optimal inhaler use lack rudimentary skills with these devices, (2) nurses and physicians seldom receive formal training in the use of inhaling devices, and (3) newer inhaling devices designed to obviate problems of technique are at present less likely to be used well by medical personnel soon after their introduction.

CT EMTAGS: education (0143); organization and management (0142); therapy (0160); automation, computers and data processing (0530); mammal (0738); human (0888); human experiment (0104); normal human (0800); priority journal (0007); article (0060)

Medical Descriptors:

*medical personnel
 *patient information
 *inhalation
 *attitude
 *skill
 patient education
 staff training
 medical education
 patient care
 follow up
 ventilator
 patient monitoring
 nurse patient relationship
 doctor patient relation

data analysis

human
 human experiment
 normal human
 priority journal
 article

Drug Descriptors:

*drug delivery system: AD, drug administration
 *aerosol: AD, drug administration
 terbutaline

RN 23031-25-6
 CN (1) Turbuhaler
 CO (1) Astra (Canada); Trudell (Canada)

L22 ANSWER 13 OF 35 MEDLINE DUPLICATE 5
 AN 94110153 MEDLINE
 DN 94110153
 TI Tracheobronchial dilation during isocapnic hypoxia in conscious humans.
 AU Juli`a-Serd`a G; Molfino N A; Furlott H G; McClean P A; Rebuck A S; Hoffstein V; Slutsky A S; Zamel N; Chapman
 K R
 CS Department of Medicine, University of Toronto, Ontario, Canada..
 SO JOURNAL OF APPLIED PHYSIOLOGY, (1993 Oct) 75 (4) 1728-33.
 Journal code: HEG. ISSN: 8750-7587.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 199404

AB To assess the effects of isocapnic hypoxia on the pharynx, glottis, extrathoracic trachea (ET), intrathoracic trachea (IT), and main bronchi (MB), we measured the cross-sectional areas of these airways by acoustic reflection technique in 15 healthy volunteers. Measurements were made during tidal volume **breathing** while subjects were normoxic [arterial O₂ saturation (SaO₂) > 95%] or were made hypoxic by a rebreathing procedure. Under hypoxemic conditions, airway cross-sectional areas increased significantly at ET, IT, and MB levels ($P < 0.001$). The magnitude of this dilation was similar for both levels of hypoxemia studied (SaO₂ 80-85% and 70-75%); at the milder of the two hypoxemic conditions, ET cross-sectional area increased by 12.4 +/- 4.2% (SE), IT by 10.2 +/- 5.9%, and MB by 19.1 +/- 3.2%. No significant changes were found in the pharyngeal or glottic areas. Dilation was not produced by normoxic isocapnic hyperventilation, and the use of hypoxic airway gas mixtures did not artifactually alter acoustic reflection measurements in a mechanical model. Vagal airway tone, as reflected by airway constriction during pauses in tidal **breathing**, was unaffected by isocapnic hypoxia. We conclude that isocapnic hypoxia produces dilation of the trachea and major bronchi, an effect unaccounted for by an alteration in the ventilatory pattern.

CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't
Adult

*Anoxia: PP, physiopathology

Asthma: PP, physiopathology

Blood Gas Analysis

*Bronchi: PP, physiopathology

Carbon Dioxide: BL, blood

Hyperventilation: PP, physiopathology

Models, Anatomic

Muscle Tonus: PH, physiology

Oxygen: BL, blood

Respiratory Function Tests

Sleep Apnea Syndromes: PP, physiopathology

*Trachea: PP, physiopathology

RN 124-38-9 (Carbon Dioxide); 7782-44-7 (Oxygen)

L22 ANSWER 14 OF 35 MEDLINE

DUPLICATE 6

AN 94171257 MEDLINE

DN 94171257

TI On-line determination of pulmonary blood flow using respiratory inert gas **analysis**.

AU Gan K; Nishi I; Chin I; **Slutsky A S**

CS Department of Medicine, Mount Sinai Hospital, University of Toronto, Canada..

SO IEEE TRANSACTIONS ON BIOMEDICAL ENGINEERING, (1993 Dec) 40 (12) 1250-9.

Journal code: GFX. ISSN: 0018-9294.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

EM 199406

AB An inert gas **analysis** method has been developed to perform on-line real time determination of pulmonary blood flow using a nonbreathing approach. This technique is based on a mathematical model describing mass balance of two inert gases which are **breathed** using an open gas circuit. The measurements using

Choon Koh STIC/LIBRARY 308-4133

this method are noninvasive, easy to perform, and do not disturb normal physiological processes. As well, since data are collected on a **breath-by-breath** basis, it is possible to estimate other respiratory, cardiopulmonary, and metabolic parameters simultaneously in a **breath-by-breath** manner. Special consideration was given to developing effective data processing algorithms to minimize the influence of measurement noise and respiratory variations. Experimental studies to compare this method with other accepted techniques were conducted to validate the present technique.

CT Check Tags: Animal; Comparative Study; Female; Human; Male; Support, Non-U.S. Gov't
 Acetylene: DU, diagnostic use
 Algorithms
 Blood Flow Velocity
 Cardiac Output
 Dogs
 Linear Models
 Models, Biological
 *Online Systems
 Online Systems: SN, statistics & numerical data
 *Pulmonary Circulation
 *Pulmonary Gas Exchange
 Respiratory Dead Space
 *Respiratory Function Tests: MT, methods
 Respiratory Function Tests: SN, statistics & numerical data
 Sensitivity and Specificity
 Thermodilution
 RN 74-86-2 (Acetylene)

L22 ANSWER 15 OF 35 BIOSIS COPYRIGHT 1998 BIOSIS DUPLICATE 7

AN 93:589302 BIOSIS

DN 97008672

TI Measurement of fat digestion in early life using a stable isotope **breath** test.

AU McClean P; Harding M; Coward W A; Green M R; Weaver L T

CS Dep. Paediatrics and Child Health, St. James's University Hosp., Beckett St., Leeds LS9 7TF, UK

SO Archives of Disease in Childhood 69 (3). 1993. 366-370. ISSN: 0003-9888

LA English

AB ¹³C **breath** tests are a safe, non-invasive way of assessing nutrient digestion and absorption that can be used repeatedly in infancy and childhood. The aim of this study was to assess their value for measuring fat digestion in infants and young children with cystic fibrosis, and healthy controls whose pancreatic exocrine function is immature, and to monitor pancreatic enzyme supplementation. Six infants with cystic fibrosis (aged 10-18 months) and nine healthy controls (aged 6-19 months) were studied. After an overnight fast each child ingested 7.5 mg/kg ¹³C trioctanoin (99 atom % excess) followed by a known volume of milk. **Breath** samples were collected before and at 30 minute intervals thereafter for five hours. The ¹³C enrichment of expired carbon dioxide was measured by gas isotope ratio mass spectrometry. The mean (SD) percentage dose recovery of ¹³C was 13.5 (5.3) for the cystic fibrosis group and 24.2 (6.7) for the healthy controls. When those with cystic fibrosis were studied after supplementary pancreatic

enzymes, the mean percentage dose recovery rose to 17.1 (6.9). Total intraluminal lipolysis was diminished by 44% in young children with cystic fibrosis. Pancreatic enzyme supplements improved digestion by 27%. The ¹³C trioctanoin **breath** test was effective in detecting fat maldigestion and can be used to measure the benefits of enzyme supplements in early life.

ST RESEARCH ARTICLE; CLINICAL TRIAL; HUMAN; CARBON-13 TRIOCTANOIN;

ANALYTICAL METHOD; DIAGNOSTIC POTENTIAL; NUTRIENT MALABSORPTION

CC Biochemical Studies-Lipids 10066

Biophysics-General Biophysical Techniques *10504

Pathology, General and Miscellaneous-Diagnostic *12504

Metabolism-Metabolic Disorders *13020

Nutrition-General Studies, Nutritional Status and Methods *13202

Nutrition-Lipids *13222

Digestive System-Physiology and Biochemistry *14004

Respiratory System-General; Methods *16001

Pediatrics *25000

BC Hominidae 86215

L22 ANSWER 16 OF 35 MEDLINE

DUPLICATE 8

AN 91209048 MEDLINE

DN 91209048

TI Response characteristics of a dual transcutaneous oxygen/carbon dioxide monitoring system.

AU Kesten S; Chapman K R; Rebuck A S

CS Division of Respiratory Medicine, Toronto Western Hospital, Ontario, Canada..

SO CHEST, (1991 May) 99 (5) 1211-5.

Journal code: D1C. ISSN: 0012-3692.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Abridged Index Medicus Journals; Priority Journals; Cancer Journals

EM 199108

AB We tested the response characteristics of a dual transcutaneous (tc) PO₂/PCO₂ monitoring system in healthy subjects who **breathed** various gas mixtures, and we compared steady-state tc readings to simultaneous arterial blood gas **analysis** in 20 stable respiratory outpatients. The electrodes were simple to apply, required very little skin preparation, and had trivial signal drift. In healthy subjects, tcPCO₂ lag time during CO₂ rebreathing was 16.8 seconds, with a 90 percent response time of 77.9 seconds after CO₂ **breathing** was discontinued. The 90 percent response times of the O₂ electrode when subjects **breathed** a hypoxic mixture was 257 seconds after a lag of 31 seconds. When inhaled gas mixtures were changed from hypoxia to room air, the lag time was shorter (12.5 seconds), but 90 percent response time exceeded 5 minutes. In stable patients with respiratory disease, tcPCO₂ and tcPO₂ were linearly related to PaCO₂ (range, 19 to 53 mm Hg) and PaO₂ (range, 45 to 99 mm Hg), respectively (tcPCO₂ = 1.4 PaCO₂ - 9.44, with r = 0.90 and SEE = 5.35 mm Hg; tcPO₂ = 0.56 PaO₂ + 20.4, with r = 0.53 and SEE = 11.7 mm Hg). We conclude that the response of the dual transcutaneous monitoring system is more rapid for the CO₂ than the O₂ electrode and may be rapid enough to be useful in some clinical settings; however, the O₂ system fails to offer the response characteristics and accuracy that would allow it to be substituted

for arterial gas tensions in unstable clinical situations.

CT Check Tags: Comparative Study; Human
 *Anoxia: BL, blood
 *Blood Gas Monitoring, Transcutaneous: IS, instrumentation
 Evaluation Studies
 *Respiratory Tract Diseases: BL, blood

L22 ANSWER 17 OF 35 MEDLINE
 AN 91295679 MEDLINE
 DN 91295679
 TI Effect of low concentrations of ozone on inhaled allergen responses
 in asthmatic subjects [see comments].
 CM Comment in: Lancet 1991 Jul 27;338(8761):221-2
 AU Molfino N A; Wright S C; Katz I; Tarlo S; Silverman F; McClean P A;
 Szalai J P; Raizenne M; **Slutsky A S; Zamel N**
 CS Department of Medicine, University of Toronto, Ontario, Canada.
 SO LANCET, (1991 Jul 27) 338 (8761) 199-203.
 Journal code: LOS. ISSN: 0140-6736.
 CY ENGLAND: United Kingdom
 DT (CLINICAL TRIAL)
 (CONTROLLED CLINICAL TRIAL)
 Journal; Article; (JOURNAL ARTICLE)
 (RANDOMIZED CONTROLLED TRIAL)
 LA English
 FS Abridged Index Medicus Journals; Priority Journals; Cancer Journals
 EM 199110
 AB The relation between inhalation of ambient concentrations of ozone
 and airway reactivity to inhaled allergens may be important in
 asthma, since both agents can produce inflammatory changes in the
 airways. Seven asthmatic patients (mean age 40 [SD 13] years), with
 seasonal symptoms of asthma and positive skin tests for ragweed or
 grass, took part in a study to investigate whether exposure to low
 concentrations of ozone potentiates the airway allergic response.
 The patients were studied during 4 separate weeks in the winter. In
 each week there were 3 study days: on days 1 and 3 methacholine
 challenges were carried out; and on day 2 the subject received one
 of four combined challenges in a single-blind design--air
breathing followed by inhalation of allergen diluent
 (placebo); ozone followed by inhalation of allergen diluent; air
 followed by allergen; or ozone followed by allergen. The ozone
 concentration was 0.12 ppm during 1 h of tidal **breathing**
 at rest, and allergens were inhaled until the forced expiratory
 volume in 1 s (FEV1) had fallen by 15% (PC15). There were no
 significant differences in baseline FEV1 after exposure to ozone but
 PC15 was significantly reduced when allergen was preceded by ozone
 inhalation: the mean PC15 after air was 0.013 (SD 0.017) mg/ml
 compared with 0.0056 (0.0062) mg/ml after ozone (p = 0.042). Thus,
 low ozone concentrations, similar to those commonly occurring in
 urban areas, can increase the bronchial responsiveness to allergen
 in atopic asthmatic subjects. This effect does not seem to be the
 result of changes in baseline airway function.

CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't
 Adult
 *Air Pollutants, Environmental: AE, adverse effects
 Air Pollutants, Environmental: AN, analysis
 Allergens
 Analysis of Variance

Asthma: ET, etiology
 *Asthma: PP, physiopathology
 *Bronchial Provocation Tests
 Bronchoconstriction
 Forced Expiratory Volume
 Middle Age
 Ozone: AD, administration & dosage
 *Ozone: AE, adverse effects
 Ozone: AN, analysis
 RN 10028-15-6 (Ozone)
 CN 0 (Air Pollutants, Environmental); 0 (Allergens)

L22 ANSWER 18 OF 35 MEDLINE DUPLICATE 9
 AN 90109884 MEDLINE
 DN 90109884
 TI Glottic and cervical tracheal narrowing in patients with obstructive sleep apnea.
 AU Rubinstein I; Bradley T D; Zamel N; Hoffstein V
 CS Department of Medicine, St. Michael's Hospital, Toronto, Ontario, Canada..
 SO JOURNAL OF APPLIED PHYSIOLOGY, (1989 Dec) 67 (6) 2427-31.
 Journal code: HEG. ISSN: 8750-7587.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 199004
 AB There are several studies showing that patients with idiopathic obstructive sleep apnea (OSA) have a narrow and collapsible pharynx that may predispose them to repeated upper airway occlusions during sleep. We hypothesized that this structural abnormality may also extend to the glottic and tracheal region. Consequently, we measured pharyngeal (Aph), glottic (Agl), cervical tracheal (Atr1), midtracheal (Atr2), and distal (Atr3) tracheal areas during tidal **breathing** in 66 patients with OSA (16 nonobese and 50 obese) and 8 nonapneic controls. We found that Aph, Agl, and Atr1, but not Atr2 or Atr3, were significantly smaller in the OSA group than in the control group. Obese patients with OSA had the smallest upper airway area, although the nonapneic controls had the largest areas. Multiple linear regression **analysis** revealed that the pharyngeal area, cervical tracheal area, and body mass index were all independent determinants of the apnea-hypopnea index, accounting for 31% of the variability in apnea-hypopnea index. Aph, Agl, and Atr showed significant correlation with the body mass index. We conclude that sleep-disordered **breathing** is associated with diffuse upper airway narrowing and that obesity contributes to this narrowing. Furthermore, we speculate that a common pathophysiological mechanism may be responsible for this reduction in upper airway area extending from the pharynx to the proximal trachea.

CT Check Tags: Human; Male; Support, Non-U.S. Gov't
 Adult
 *Glottis: PP, physiopathology
 *Laryngostenosis: CO, complications
 Laryngostenosis: PP, physiopathology
 Middle Age
 Obesity: CO, complications

*Sleep Apnea Syndromes: ET, etiology
 Sleep Apnea Syndromes: PP, physiopathology
 *Tracheal Diseases: CO, complications
 Tracheal Diseases: PP, physiopathology

L22 ANSWER 19 OF 35 MEDLINE DUPLICATE 10
 AN 88213205 MEDLINE
 DN 88213205
 TI Possible mechanisms of periodic **breathing** during sleep.
 AU **Chapman K R**; Bruce E N; Gothe B; Cherniack N S
 CS Department of Medicine, Case Western Reserve University, Cleveland, Ohio 44106.
 NC HL-25830 (NHLBI)
 SO JOURNAL OF APPLIED PHYSIOLOGY, (1988 Mar) 64 (3) 1000-8.
 Journal code: HEG. ISSN: 8750-7587.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 198808
 AB To determine the effect of respiratory control system loop gain on periodic **breathing** during sleep, 10 volunteers were studied during stage 1-2 non-rapid-eye-movement (NREM) sleep while **breathing** room air (room air control), while hypoxic (hypoxia control), and while wearing a tight-fitting mask that augmented control system gain by mechanically increasing the effect of ventilation on arterial O₂ saturation (SaO₂) (hypoxia increased gain). Ventilatory responses to progressive hypoxia at two steady-state end-tidal PCO₂ levels and to progressive hypercapnia at two levels of oxygenation were measured during wakefulness as indexes of controller gain. Under increased gain conditions, five male subjects developed periodic **breathing** with recurrent cycles of hyperventilation and apnea; the remaining subjects had nonperiodic patterns of hyperventilation. Periodic **breathers** had greater ventilatory response slopes to hypercapnia under either hyperoxic or hypoxic conditions than nonperiodic **breathers** (2.98 +/- 0.72 vs. 1.50 +/- 0.39 l.min⁻¹.Torr⁻¹; 4.39 +/- 2.05 vs. 1.72 +/- 0.86 l.min⁻¹.Torr⁻¹; for both, P less than 0.04) and greater ventilatory responsiveness to hypoxia at a PCO₂ of 46.5 Torr (2.07 +/- 0.91 vs. 0.87 +/- 0.38 l.min⁻¹.% fall in SaO₂(-1); P less than 0.04). To assess whether spontaneous oscillations in ventilation contributed to periodic **breathing**, power spectrum **analysis** was used to detect significant cyclic patterns in ventilation during NREM sleep. Oscillations occurred more frequently in periodic **breathers**, and hypercapnic responses were higher in subjects with oscillations than those without. The results suggest that spontaneous oscillations in ventilation are common during sleep and can be converted to periodic **breathing** with apnea when loop gain is increased.
 CT Check Tags: Female; Human; Male; Support, U.S. Gov't, P.H.S.
 Adult
 *Anoxia: PP, physiopathology
 Apnea: PP, physiopathology
 Blood Gas Analysis
 Cheyne-Stokes Respiration: PP, physiopathology
 Electroencephalography
 *Hypercapnia: PP, physiopathology

Oxygen: BL, blood
 *Respiration
 *Sleep: PH, physiology
 *Wakefulness: PH, physiology
 RN 7782-44-7 (Oxygen)

L22 ANSWER 20 OF 35 MEDLINE DUPLICATE 11
 AN 88186676 MEDLINE
 DN 88186676
 TI Comparison of glottic areas measured by acoustic reflections vs. computerized tomography.
 AU D'Urzo A D; Rubinstein I; Lawson V G; Vassal K P; Rebuck A S; Slutsky A S; Hoffstein V
 CS Department of Medicine, St. Michael's Hospital, Toronto, Ontario, Canada..
 SO JOURNAL OF APPLIED PHYSIOLOGY, (1988 Jan) 64 (1) 367-70.
 Journal code: HEG. ISSN: 8750-7587.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 198807
 AB We compared measurements of glottic area obtained by acoustic reflection technique with anatomically equivalent area measured from computerized tomographic (CT) scans of the neck in 11 subjects with glottic pathology. Both measurements were performed in the supine position during tidal breathing at functional residual capacity. We found excellent agreement in glottic areas obtained by both methods: the mean (+/- SD) values were 1.8 +/- 0.8 cm2 for the acoustic method and 1.7 +/- 0.9 cm2 for the CT method. Linear regression analysis revealed the following relationship between the area measured by acoustic technique (AAC) and that measured by CT (ACT): $AAC = 0.81.ACT + 0.36$. There was a significant correlation between the two measurements of glottic area ($r = 0.95$, P less than 0.0001). We conclude that the acoustic reflection technique may be used reliably in clinical and physiological studies concerned with glottic geometry.

CT Check Tags: Comparative Study; Human; Support, Non-U.S. Gov't
 *Acoustics
 Acoustics: IS, instrumentation
 Adult
 Aged
 *Glottis: PA, pathology
 Glottis: RA, radiography
 Middle Age
 *Tomography, X-Ray Computed

L22 ANSWER 21 OF 35 MEDLINE DUPLICATE 12
 AN 87250178 MEDLINE
 DN 87250178
 TI An isovolume method for analysis of density dependence of maximal expiratory flows.
 AU Rubinstein I; Vanek A W; McClean P A; Boucher R; Zamel N; Slutsky A S
 SO JOURNAL OF APPLIED PHYSIOLOGY, (1987 May) 62 (5) 2115-20.
 Journal code: HEG. ISSN: 8750-7587.
 CY United States

DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 198710
 AB The usual method of measuring density dependence of maximum expiratory flows is superimposition at total lung capacity or residual volume of maximum expiratory flow volume (MEFV) curves obtained **breathing** air and a mixture of 80% He plus 20% O₂ (HeO₂). A major problem with this technique is the large variability in results, which has been thought to be due to errors in matching lung volumes on both gases. Accordingly, we obtained MEFV curves **breathing** air and HeO₂ using a bag-in-the-box system so that the curves **breathing** the two gas mixtures could be directly superimposed without removing the mouthpiece (isovolume). Ten healthy, nonsmoking subjects performed MEFV curves on each gas mixture for six consecutive experiments. We compared the increase in flow at 50% of vital capacity (ΔV_{max50}) and volume of isoflow (Viso) by superimposing and matching the MEFV curves at total lung capacity, at residual volume, and using the isovolume method. The variability of each method was assessed by the mean intersubject and intrasubject coefficients of variation. In all subjects, the mean ΔV_{max50} and Viso as well as their corresponding coefficients of variation were not significantly different among the three methods. We conclude that, in healthy nonsmoking young adults, the method chosen for superimposing and matching MEFV curves has no effect on the variability of ΔV_{max50} and Viso.

CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't
 Adult
 Air
 *Forced Expiratory Flow Rates
 Helium
 *Maximal Expiratory Flow-Volume Curves
 Oxygen
 Residual Volume
 Total Lung Capacity
 Vital Capacity

RN 7440-59-7 (Helium); 7782-44-7 (Oxygen)

L22 ANSWER 22 OF 35 MEDLINE DUPLICATE 13
 AN 87126086 MEDLINE
 DN 87126086
 TI Airway area by acoustic response measurements and computerized tomography.
 AU D'Urzo A D; Lawson V G; Vassal K P; Rebuck A S; Slutsky A S
 ; Hoffstein V
 SO AMERICAN REVIEW OF RESPIRATORY DISEASE, (1987 Feb) 135 (2) 392-5.
 Journal code: 426. ISSN: 0003-0805.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Abridged Index Medicus Journals; Priority Journals
 EM 198705
 AB In order to determine more precisely the accuracy with which the acoustic reflection technique (ART) can infer airway area during spontaneous **breathing**, we compared acoustic measurements of airway area with equivalent areas measured from computerized tomographic (CT) scans of the neck and chest in 7 patients (mean Choon Koh STIC/LIBRARY 308-4133

age, 54 yr; range, 33 to 69 yr) with a history of upper airway abnormalities. At the time of the study, all patients were clinically stable and had no recurrent nerve palsy. Measurements of airway area by ART and CT were performed in the supine posture while patients **breathed** quietly at FRC. We found that there was considerable intersubject variability in area-distance functions determined by acoustic reflections. None of the subjects had a flat tracheal plateau. Once the acoustic and CT data were aligned, we compared cross-sectional areas at various distances from the glottis. Comparison points were separated by 1 cm, and as many as 13 different CT sections were used in some subjects. Mean values for all data points ($n = 83$) were $2.45 \pm SD = 0.69 \text{ cm}^2$ and $2.56 \pm SD = 0.82 \text{ cm}^2$ for the acoustic and CT methods, respectively, $Z = 0.93$; p greater than 0.05. Linear regression **analysis** revealed a correlation coefficient (r) of 0.92; p less than 0.0001. On the basis of these findings, we conclude that the acoustic reflection technique may be used reliably for clinical and physiologic studies of the upper airways in humans.

CT Check Tags: Comparative Study; Human; Support, Non-U.S. Gov't

*Acoustics

Adult

Aged

Glottis: AH, anatomy & histology

Glottis: RA, radiography

Middle Age

Pharynx: AH, anatomy & histology

Pharynx: RA, radiography

*Respiratory System: AH, anatomy & histology

Respiratory System: RA, radiography

*Tomography, X-Ray Computed

Trachea: AH, anatomy & histology

Trachea: RA, radiography

L22 ANSWER 23 OF 35 BIOSIS COPYRIGHT 1998 BIOSIS

AN 86:233111 BIOSIS

DN BR30:115607

TI A RE-BREATHING TECHNIQUE FOR ANALYZING AIR AND
HELIUM-OXYGEN MAXIMAL EXPIRATORY FLOW VOLUME CURVES IN NORMALS.

AU ZAMEL N; RUBINSTEIN I; VANEK A W; BOUCHER R; SLUTSKY A
S

CS DEP. MED., UNIV. TORONTO, TORONTO, ONT., CAN.

SO 70TH ANNUAL MEETING OF THE FEDERATION OF AMERICAN SOCIETIES FOR
EXPERIMENTAL BIOLOGY, ST. LOUIS, MO., USA, APR. 13-18, 1986. FED PROC
45 (3). 1986. 311. CODEN: FEPR7 ISSN: 0014-9446

DT Conference

LA English

ST ABSTRACT HUMAN SPIROMETER

CC General Biology-Symposia, Transactions and Proceedings of
Conferences, Congresses, Review Annuals 00520

Biochemistry-Gases *10012

Biochemical Studies-General 10060

Respiratory System-General; Methods *16001

Respiratory System-Physiology and Biochemistry *16004

BC Hominidae 86215

L22 ANSWER 24 OF 35 MEDLINE

AN 86293968 MEDLINE

Choon Koh STIC/LIBRARY 308-4133

DN 86293968
 TI Clinical and physiologic heterogeneity of the central sleep apnea syndrome.
 AU Bradley T D; McNicholas W T; Rutherford R; Popkin J; Zamel N
 ; Phillipson E A
 SO AMERICAN REVIEW OF RESPIRATORY DISEASE, (1986 Aug) 134 (2) 217-21.
 Journal code: 426. ISSN: 0003-0805.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Abridged Index Medicus Journals; Priority Journals
 EM 198611
 AB We examined the clinical and respiratory physiologic characteristics of 18 patients in whom a diagnosis of central sleep apnea syndrome was established by overnight polysomnographic studies. The patients could be readily divided into 2 groups on the basis of physiologic and clinical criteria. Five patients had an awake arterial PCO₂ (PaCO₂) of 53 +/- 4 (SEM) mmHg in the absence of intrinsic bronchopulmonary disease, a ventilatory response to CO₂ of 0.6 +/- 0.2 L/min/mmHg, and a hemoglobin concentration of 180 +/- 6 g/L. Their clinical course was dominated by recurrent episodes of respiratory failure. In contrast, the other 13 patients had an awake PaCO₂ of 35 +/- 1 mmHg (p less than 0.001), a CO₂ response of 2.9 +/- 0.4 L/min/mmHg (p less than 0.005), and a hemoglobin concentration of 150 +/- 5 g/L (p less than 0.005). Clinically, they presented with features typical of sleep apnea; none had a history of respiratory failure. Despite the clinical and physiologic differences between the 2 groups, there were no differences between them in the frequency or duration of nocturnal apneic events or in sleep architecture. The findings indicate that the central sleep apnea syndrome is not a homogeneous disease entity. Rather, it includes 2 groups of patients that are clinically and physiologically distinct, with 1 group chronically hypoventilating and the other group either chronically hyperventilating or ventilating normally.
 CT Check Tags: Human; Male; Support, Non-U.S. Gov't
 Adult
 Airway Resistance
 Apnea: CO, complications
 *Apnea: PP, physiopathology
 Blood Gas Analysis
 Electrocardiography
 Hypercapnia: CO, complications
 Maximal Expiratory Flow Rate
 Middle Age
 Plethysmography
 Respiration
 Sleep: PH, physiology
 Sleep Stages
 Snoring
 Tidal Volume
 Wakefulness
 L22 ANSWER 25 OF 35 MEDLINE
 AN 85182421 MEDLINE
 DN 85182421
 TI Simulation of gas transport due to cardiogenic oscillations.
 Choon Koh STIC/LIBRARY 308-4133

AU **Slutsky A S; Khoo M C; Brown R**
 NC HL-32333 (NHLBI)
 SO JOURNAL OF APPLIED PHYSIOLOGY, (1985 Apr) 58 (4) 1331-9.
 Journal code: HEG. ISSN: 8750-7587.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 198508
 AB We simulated gas transport due to cardiogenic oscillations (CO) using a model developed to quantify the gas mixing due to high-frequency ventilation (16). The basic components of the model are 1) gas mixing by augmented transport, 2) symmetrical lung morphometry, and 3) a Lagrangian (moving) reference frame. The theoretical predictions of the model are in general agreement with published experimental studies that have examined the effect of CO on the nitrogen concentration obtained by intrapulmonary gas sampling and the effect of CO on regional and total anatomical dead space. Further, the model predicts that augmentation of gas transport due to CO is less, nearer to the alveolar regions of the lung, and that the effect of CO during normal tidal breathing is negligible, but that CO may contribute up to approximately 10% of the alveolar ventilation in patients with severe hypoventilation. The agreement between experimental and theoretical results suggests that it may not be necessary to invoke gas transport mechanisms specific to an asymmetrical bronchial tree to explain the major proportion of gas transport due to CO.
 CT Check Tags: Comparative Study; Support, U.S. Gov't, Non-P.H.S.; Support, U.S. Gov't, P.H.S.
 Carbon Monoxide: PD, pharmacology
 *Heart: PH, physiology
 Lung: AN, analysis
 Lung: PH, physiology
 *Models, Biological
 Nitrogen: AN, analysis
 *Pulmonary Ventilation
 Respiration: DE, drug effects
 Respiratory Dead Space: DE, drug effects
 Tidal Volume
 RN 630-08-0 (Carbon Monoxide); 7727-37-9 (Nitrogen)
 L22 ANSWER 26 OF 35 MEDLINE DUPLICATE 14
 AN 84289040 MEDLINE
 DN 84289040
 TI Gas mixing during high-frequency ventilation: an improved model.
 AU Khoo M C; **Slutsky A S**; Drazen J M; Solway J; Gavriely N; Kamm R D
 NC HL-26566 (NHLBI)
 HL-31011 (NHLBI)
 SO JOURNAL OF APPLIED PHYSIOLOGY: RESPIRATORY, ENVIRONMENTAL AND EXERCISE PHYSIOLOGY, (1984 Aug) 57 (2) 493-506.
 Journal code: HAL. ISSN: 0161-7567.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 198412

AB A model for gas transport during high-frequency ventilation incorporating recently derived empirical forms for the effective diffusivity in oscillatory gas flow through a symmetrical branching network is proposed. The model accounts for the movement of gas among airways with changing cross-sectional area by using a moving-reference-frame **analysis**. The **analysis** technique incorporates the convective purging of the bias flow at the airway opening. The model predicts that although the cycle-averaged CO₂ elimination rate (VCO₂) depends most strongly on the product of frequency and tidal volume (VT), VT has an effect on its own, a finding consistent with published observations. This "VT effect" is due primarily to the oscillatory movement of gas from more central regions into peripheral regions where large cross-sectional areas promote efficient CO₂ transport by molecular diffusion. Although the VT effect exists independent of the presence of a bias flow, placing the bias flow near the main carina can enhance the VT effect substantially. As VT is increased to values in the range of ordinary tidal **breaths**, VCO₂ predicted by the model achieves close agreement with VCO₂ deduced from conventional gas exchange theory.

CT Check Tags: Comparative Study; Support, U.S. Gov't, Non-P.H.S.; Support, U.S. Gov't, P.H.S.
 Biological Transport
 Carbon Dioxide: ME, metabolism
 Homeostasis
 Lung Volume Measurements
 *Models, Biological
 *Pulmonary Gas Exchange
 Pulmonary Ventilation
 *Respiration, Artificial: MT, methods
 Respiratory System: AH, anatomy & histology
 Tidal Volume

RN 124-38-9 (Carbon Dioxide)

L22 ANSWER 27 OF 35 MEDLINE DUPLICATE 15
 AN 84161488 MEDLINE
 DN 84161488
 TI Intra-airway gas mixing during high-frequency ventilation.
 AU Solway J; Gavriely N; Kamm R D; Drazen J M; Ingram R H Jr; Khoo M C; Brown R; **Slutsky A S**
 NC HL-26566 (NHLBI)
 HL-00549 (NHLBI)
 SO JOURNAL OF APPLIED PHYSIOLOGY: RESPIRATORY, ENVIRONMENTAL AND EXERCISE PHYSIOLOGY, (1984 Feb) 56 (2) 343-54.
 Journal code: HAL. ISSN: 0161-7567.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 198407
 AB We examined the intra-airway gas transport mediated by high-frequency oscillations (HFO) in 10 nonintubated healthy volunteers using a method based on comparisons of single-**breath** N₂-washout curves obtained after various durations of **breath** hold or high-frequency oscillations. With a mathematical **analysis** based on Fick's law of diffusion we computed the local transport parameter, effective diffusivity,

Choon Koh STIC/LIBRARY 308-4133

during oscillations of frequency 2-24 Hz and tidal volume 10-120 ml and during **breath** hold alone. Local effective diffusivity increased with both oscillatory frequency and tidal volume at all levels in the tracheobronchial tree; the enhancing effect of tidal volume on local effective diffusivity was more pronounced than that of frequency so that effective diffusivity was greater with larger tidal volume at fixed frequency-**tidal** volume product ($f \cdot VT$). The greatest enhancement of gas mixing within the lung during HFO (over **breath** hold) was seen in the central airways. In previous studies examining CO₂ removal rate during HFO (J. Clin. Invest. 68: 1475, 1981), we found that CO₂ output was also greater with larger tidal volume at fixed $f \cdot VT$, and we attributed this to an end constraint imposed by a fresh gas bias flow. Results of the current study, performed without a bias flow, indicate that bias flow end constraint does not solely account for the observed dependence of CO₂ output on frequency and tidal volume.

CT Check Tags: Human; Male; Support, Non-U.S. Gov't; Support, U.S. Gov't, Non-P.H.S.; Support, U.S. Gov't, P.H.S.

Adult

Biological Transport

*Gases: ME, metabolism

Mathematics

Middle Age

Physiology: IS, instrumentation

*Respiration, Artificial

Tidal Volume

CN 0 (Gases)

L22 ANSWER 28 OF 35 MEDLINE

AN 82052681 MEDLINE

DN 82052681

TI Gas mixing by cardiogenic oscillations: a theoretical quantitative analysis.

AU Slutsky A S

NC HL-26566 (NHLBI)

SO JOURNAL OF APPLIED PHYSIOLOGY: RESPIRATORY, ENVIRONMENTAL AND EXERCISE PHYSIOLOGY, (1981 Nov) 51 (5) 1287-93.

Journal code: HAL. ISSN: 0161-7567.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 198203

AB A quantitative theoretical model of the enhanced gas mixing secondary to cardiogenic oscillations is presented based on the concept of augmented gas transport within the tracheobronchial tree (Science 209: 609, 1980). The model assumes "well-mixed" flow in the upper airways with the enhanced mixing described by $Deff = Dmol + K \cdot ud$, where $Deff$ is the effective diffusivity; $Dmol$, the molecular diffusivity; K , a constant; u , the root-mean-square flow; and d , the airway diameter. In the smaller airways on analysis based on Taylor laminar dispersion is used described by $Deff = Dmol + (1/192) (ud)^2/Dmol$. The model predicts that, in dogs, cardiogenic oscillations should enhance gas mixing about 10-fold depending on the flow rates generated by the heart. Other predictions are that the augmentation of gas mixing should be greater 1) at lower lung volumes, 2) with sulfur hexafluoride vs. helium or air, 3) after

Choon Koh STIC/LIBRARY 308-4133

peripheral airway dilation, and 4) after central airways constriction. Theoretical predictions are very close to published experimental results where available. This model should help in the development of mathematical models of gas mixing within the lungs that will include the contribution of cardiogenic oscillations.

CT Check Tags: Support, Non-U.S. Gov't; Support, U.S. Gov't, Non-P.H.S.; Support, U.S. Gov't, P.H.S.

Mathematics

Models, Biological

*Myocardial Contraction

*Respiration

L22 ANSWER 29 OF 35 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.

AN 80075181 EMBASE

TI Estimating central and peripheral respiratory resistance: An alternative **analysis**.

AU Slutsky A.S.; Drazen J.M.

CS Dept. Med., Peter Bent Brigham Hosp., Boston, Mass. 02115, United States

SO J. APPL. PHYSIOL., (1979) 47/6 (1325-1331).

CODEN: JARPDU

CY United States

LA English

AB Pimmel et al. (J. Appl. Physiol., Respirat. Exercise Physiol. 45: 375-380, 1978) recently presented an **analysis** of the frequency dependence of respiratory resistance (Rrs) based on a simple electrical analog of the respiratory system that allows estimation of the central (Rc) and peripheral (Rp) components of Rrs. The method by which they determine these parameters from the experimental data is based on a number of unproven assumptions. Using the same electrical analog, we present an **analysis** that allows calculation of these parameters, as well as the corner frequency of the network (f1), without need for similar assumptions. Our technique is based on fitting the resistances (RTh) measured over a range of frequencies (f) to the exact solution of the network given by $RTh = Tc + Rpf12/(f2 + f12)$. Using the transformation $X = a/(f2 + f12)$, the equation becomes a linear relationship between RTh and X allowing the resistances to be determined by linear regression. Reanalysis of Pimmel et al.'s data demonstrated that the assumptions of a constant f1, and the equivalence of RTh at 0 Hz to RTh at 1 Hz is invalid under certain conditions. Thus, if one is to use the electrical analog to partition Rrs into its central and peripheral components, one should use the **analytic** approach suggested here that does not rely on these assumptions.

CC 002.06.00.00.00.

015.01.03.08.00.

027.02.06.00.00.

027.06.08.00.00.

CT EMTAGS: respiratory system (0930); nonbiological model (0503)

Medical Descriptors:

*breathing mechanics

*airway resistance

mathematic model

L22 ANSWER 30 OF 35 MEDLINE

AN 79163854 MEDLINE

DN 79163854

TI Pulmonary function in identical twins: comparison of nonsmokers and smokers.
 AU Webster P M; Lorimer E G; Man S F; Woolf C R; Zamel N
 SO AMERICAN REVIEW OF RESPIRATORY DISEASE, (1979 Feb) 119 (2) 223-8.
 Journal code: 426. ISSN: 0003-0805.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Abridged Index Medicus Journals; Priority Journals
 EM 197908
 AB Forty-five apparently normal pairs of identical twins were given pulmonary function tests to determine the role of genetics in bronchial susceptibility to cigarette smoke. Maximal expiratory flow at 60 per cent of total lung capacity (Vmax60) was the best discriminator of smokers from nonsmokers among pairs in which one member smoked and the other did not. The intrapair difference of Vmax60 values in pairs in which both members smoked was the same as in pairs in which both members did not smoke. These data support the view that genetic factors are important in determining the vulnerability of the airways to cigarette smoke.
 CT Check Tags: Comparative Study; Female; Human; Male
 Adult
 Analysis of Variance
 Closing Volume
 Inspiratory Capacity
 Maximal Expiratory Flow Rate
 Maximal Expiratory Flow-Volume Curves
 Pregnancy
 Pulmonary Diffusing Capacity
 Residual Volume
 *Respiration
 Sex Factors
 *Smoking: PP, physiopathology
 Total Lung Capacity
 *Twins
 *Twins, Monozygotic
 Vital Capacity

L22 ANSWER 31 OF 35 MEDLINE DUPLICATE 16
 AN 78185266 MEDLINE
 DN 78185266
 TI Interaction of metabolic and behavioral respiratory control during hypercapnia and speech.
 AU Phillipson E A; McClean P A; Sullivan C E; Zamel N
 SO AMERICAN REVIEW OF RESPIRATORY DISEASE, (1978 May) 117 (5) 903-9.
 Journal code: 426. ISSN: 0003-0805.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Abridged Index Medicus Journals; Priority Journals
 EM 197809
 CT Check Tags: Female; Human; Male
 Adult
 Carbon Dioxide: AN, analysis
 Dyspnea: PX, psychology
 *Hypercapnia: ME, metabolism
 *Hypercapnia: PX, psychology

Partial Pressure
Pulmonary Ventilation
***Respiration**
Respiratory Center: PP, physiopathology
***Speech**
Tidal Volume

L22 ANSWER 32 OF 35 MEDLINE
AN 78033724 MEDLINE
DN 78033724
TI A mathematical expression to describe the ventilatory response to hypoxia and hypercapnia.
AU Rebuck A S; Slutsky A S; Mahutte C K
SO RESPIRATION PHYSIOLOGY, (1977 Sep) 31 (1) 107-16.
Journal code: R88. ISSN: 0034-5687.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 197802
AB A mathematical expression has been developed to describe the ventilatory responses to changes in arterial oxygen saturation (SaO2) and arterial carbon dioxide tension (PCO2). The derivation is based on the experimental observations: (1) that ventilation is a linear function of PCO2 under isoxic conditions, and (2) that ventilation is a linear function of SaO2 under isocapnic conditions. It is assumed that all functions are continuous and single valued, with the implication that for any given SaO2 and PCO2 there is a unique ventilatory response. The analysis following from these three assumptions has enabled us to derive the following expression for ventilation: $VI(SaO_2, PCO_2) = \alpha_1 - SaO_2 - PCO_2 + \alpha_2 - SaO_2 + \alpha_3 - PCO_2 + \alpha_4$ where the alpha's are constants for an individual. This equation, which follows uniquely from the assumption stated, is simpler and contains fewer parameters than previous expressions used to describe ventilation.
CT Check Tags: Human
*Anoxia: PP, physiopathology
*Hypercapnia: PP, physiopathology
Mathematics
Models, Biological
***Respiration**

L22 ANSWER 33 OF 35 MEDLINE
AN 75052980 MEDLINE
DN 75052980
TI Lung function in alpha1-antitrypsin heterozygotes (Pi type MZ).
AU Cooper D M; Hoepfner V; Cox D; Zamel N; Bryan A C; Levison H
SO AMERICAN REVIEW OF RESPIRATORY DISEASE, (1974 Dec) 110 (6) 708-15.
Journal code: 426. ISSN: 0003-0805.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 197503
CT Check Tags: Female; Human; Male
*alpha 1-Antitrypsin: DF, deficiency

Adolescence
Adult
Age Factors
Heterozygote
Lung Compliance
*Lung Diseases: GE, genetics
*Lung Diseases: PP, physiopathology
Middle Age
Oxygen: BL, blood
Plethysmography, Whole Body
Pulmonary Emphysema: GE, genetics
Pulmonary Emphysema: PP, physiopathology
Pulmonary Ventilation
Regression Analysis
*Respiration
Respiratory Function Tests
Risk
Smoking
Vital Capacity

L22 ANSWER 34 OF 35 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
AN 75143748 EMBASE
TI Volume of isoflow. A new test in detection of mild abnormalities of lung mechanics.
AU Hutcheon M.; Griffin P.; Levison H.; Zamel N.
CS Dept. Int. Med. Ped., Univ. Toronto, Canada
SO AMER.REV.RESP.DIS., (1974) 110/4 (458-465).
CODEN: ARRDAB
LA English
AB The response of maximal expired flow, **breathing** a mixture of 80% helium and 20% oxygen, was **analyzed** in 18 nonsmokers and 17 smokers. The volume in which flow was the same air and with the 80% helium and 20% oxygen mixture, the volume of isoflow, was measured and compared to routine pulmonary function tests, closing capacity, and flow vs volume curves in air. The volume of isoflow was found to separate the 2 groups best. Comparison of a spirometer and plethysmograph with different periods of time **breathing** the helium mixture revealed that spirometry after 3 vital capacity inspirations maintained the sensitivity of separation of the groups, and, thus, this method is practical for mass screening.
CC 006.02.01.00.00.
006.05.01.00.00.
006.11.01.00.00.
015.01.03.00.00.
015.01.04.00.00.
015.06.04.00.00.
CT EMTAGS: methodology (0130); diagnosis (0140); major clinical study (0150); theoretical study (0110)
Medical Descriptors:
*helium
*oxygen
*smoking
*lung function
*spirometry
*body plethysmography
*lung compliance

*plethysmography
*airway obstruction

L22 ANSWER 35 OF 35 MEDLINE
AN 70229583 MEDLINE
DN 70229583
TI Powdered tantalum.
AU Nadel J A; Wolfe W G; Graf P D; Youker J E; Zamel N;
Austin J H; Hinchcliffe W A; Greenspan R H; Wright R R
SO NEW ENGLAND JOURNAL OF MEDICINE, (1970 Aug 6) 283 (6) 281-6.
Journal code: NOW. ISSN: 0028-4793.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 197010
CT Check Tags: Human
Adhesiveness
Bronchial Neoplasms: RA, radiography
*Bronchography
*Contrast Media
Contrast Media: AE, adverse effects
Histocytochemistry
Lung: AN, analysis
Lung: PA, pathology
Lung Diseases: RA, radiography
Methods
Powders
Pulmonary Alveoli: AN, analysis
Respiration: DE, drug effects
Respiratory System: RA, radiography
*Tantalum
Tantalum: AN, analysis
Tantalum: PD, pharmacology
Tracheal Stenosis: RA, radiography

=> file medline

FILE 'MEDLINE' ENTERED AT 09:15:04 ON 12 AUG 1998

FILE LAST UPDATED: 11 AUG 1998 (19980811/UP). FILE COVERS 1966 TO DATE.

THE MEDLINE FILE WAS RELOADED FEBRUARY 15, 1998, TO REFLECT THE ANNUAL MESH (MEDICAL SUBJECT HEADING) CHANGES. ENTER HELP RLOAD FOR DETAILS.

THIS FILE CONTAINS CAS REGISTRY NUMBERS FOR EASY AND ACCURATE SUBSTANCE IDENTIFICATION.

=> d his full

L1	3894	SEA ABB=ON	PLU=ON	BREATH TESTS/CT
L2	843	SEA ABB=ON	PLU=ON	NITRIC OXIDE (L) AN/CT
L3	64	SEA ABB=ON	PLU=ON	L1 AND L2
L4	468560	SEA ABB=ON	PLU=ON	C8./CT
L5	30	SEA ABB=ON	PLU=ON	L3 AND L4
L6	2237	SEA ABB=ON	PLU=ON	GLOTTIS/CT
L7	0	SEA ABB=ON	PLU=ON	L3 AND L6
L8	0	SEA ABB=ON	PLU=ON	L1 AND L6
L9	8010	SEA ABB=ON	PLU=ON	POSITIVE-PRESSURE RESPIRATION/CT
L10	1134	SEA ABB=ON	PLU=ON	POSITIVE-PRESSURE RESPIRATION (L)
				MT/CT
L11	2	SEA ABB=ON	PLU=ON	L3 AND L9
L12	1	SEA ABB=ON	PLU=ON	L1 AND L10
L14	11	SEA ABB=ON	PLU=ON	L6 AND L9
L15	3	SEA ABB=ON	PLU=ON	L6 AND L10
L16	11	SEA ABB=ON	PLU=ON	L14 OR L15
L17	3966	SEA ABB=ON	PLU=ON	CARBON(W)DIOXIDE (L) AN/CT
L18	385	SEA ABB=ON	PLU=ON	L1 AND L17
L19	1	SEA ABB=ON	PLU=ON	L18 AND L10
L20	7	SEA ABB=ON	PLU=ON	L18 AND L9
L21	7	SEA ABB=ON	PLU=ON	L19 OR L20
L22	288	SEA ABB=ON	PLU=ON	VELUM OR VELLUM
L23	1	SEA ABB=ON	PLU=ON	(L18 OR L3) AND L22
L24	0	SEA ABB=ON	PLU=ON	L22 AND L10
L25	0	SEA ABB=ON	PLU=ON	L22 AND L9
L26	4	SEA ABB=ON	PLU=ON	PRESSUR?(9A)L22
L27	8	SEA ABB=ON	PLU=ON	CLOS?(3A)L22
L28	11	SEA ABB=ON	PLU=ON	L26 OR L27
L29	1402	SEA ABB=ON	PLU=ON	SOFT(W) PALATE
L30	5368	SEA ABB=ON	PLU=ON	(NASAL OR NASOPHARYN?) (2A) CAVITY
L31	9	SEA ABB=ON	PLU=ON	L1 AND (L29 OR L30)
L32	19	SEA ABB=ON	PLU=ON	L28 OR L31
L33	16	SEA ABB=ON	PLU=ON	L11 OR L12 OR L13
L34	3273	SEA ABB=ON	PLU=ON	(DETECT? OR SENSE# OR SENSING# OR ANALY? OR ANAL# OR ASSAY? OR EST# OR ESTN# OR ESTIMAT? OR QUANTIF? OR QUANTITAT? OR CALCULAT? OR CALC# OR CALCN# OR MEASUR? OR MONITOR?) (9A) BREATH
L35	12918	SEA ABB=ON	PLU=ON	PARTIAL PRESSURE/CT
L36	7990	SEA ABB=ON	PLU=ON	(PULMONARY OR LUNG) (3A) GAS
L37	261	SEA ABB=ON	PLU=ON	L34 AND L36
L38	10	SEA ABB=ON	PLU=ON	L3 AND L34
L39	2	SEA ABB=ON	PLU=ON	L5 AND L34
L40	33	SEA ABB=ON	PLU=ON	L1 AND L37

L41 10 SEA ABB=ON PLU=ON L40 AND (L2 OR L17)
 L42 18 SEA ABB=ON PLU=ON L38 OR L39 OR L41
 L43 7 SEA ABB=ON PLU=ON L34 AND (L21 OR L16 OR L32 OR L33)
 L44 5 SEA ABB=ON PLU=ON L43 NOT L42
 L45 46 SEA ABB=ON PLU=ON L21 OR L16 OR L32 OR L33
 L46 25 SEA ABB=ON PLU=ON L45 AND L1
 L47 20 SEA ABB=ON PLU=ON L45 NOT (L46 OR L42 OR L44)
 L48 19 SEA ABB=ON PLU=ON L46 NOT (L42 OR L44)

=> d 142 1-18 all

L42 ANSWER 1 OF 18 MEDLINE
 AN 97479183 MEDLINE
 DN 97479183
 TI Exhaled NO during graded changes in inhaled oxygen in man.
 AU Schmetterer L; Strenn K; Kastner J; Eichler H G; Wolzt M
 CS Department of Clinical Pharmacology, University of Vienna, Austria.
 SO THORAX, (1997 Aug) 52 (8) 736-8.
 Journal code: VQW. ISSN: 0040-6376.
 CY ENGLAND: United Kingdom
 DT (CLINICAL TRIAL)
 Journal; Article; (JOURNAL ARTICLE)
 (RANDOMIZED CONTROLLED TRIAL)
 LA English
 FS Priority Journals; Cancer Journals
 EM 199801
 EW 19980104
 AB BACKGROUND: Nitric oxide (NO) is present in the exhaled air of animals and humans. In isolated animal lungs the amount of exhaled NO is decreased during hypoxia. A study was undertaken to determine whether changes in arterial oxygen tension affect levels of exhaled NO in humans. METHODS: Sixteen healthy subjects were randomised to inhale different gas mixtures of oxygen and nitrogen in a double blind crossover study. Eight gas mixtures of oxygen and nitrogen (fractional inspired oxygen concentration (FiO2) 0.1 to 1.0) were administered. Exhaled NO was measured with a chemiluminescence detector from end expiratory single breath exhalation. RESULTS: A dose-dependent change in exhaled NO during graded oxygen breathing was observed (p = 0.0012). The mean (SE) exhaled NO concentration was 31 (3) ppb at baseline, 39 (4) ppb at an FiO2 of 1.0, and 26 (3) ppb at an FiO2 of 0.1. CONCLUSIONS: The NO concentration in exhaled air in healthy humans is dependent on oxygen tension. Hyperoxia increases the level of exhaled NO, which indicates increased NO production. The mechanism behind this phenomenon remains to be elucidated.
 CT Check Tags: Female; Human; Male
 Administration, Inhalation
 Adult
 Anoxia: ME, metabolism
 Breath Tests
 Dose-Response Relationship, Drug
 Hyperoxia: ME, metabolism
 *Nitric Oxide: AN, analysis
 Oxygen: AD, administration & dosage
 *Oxygen: BL, blood

Pilot Projects
 RN 10102-43-9 (Nitric Oxide); 7782-44-7 (Oxygen)

L42 ANSWER 2 OF 18 MEDLINE
 AN 97471472 MEDLINE
 DN 97471472
 TI Decreased concentration of exhaled nitric oxide (NO) in patients with cystic fibrosis.
 AU Grasmann H; Michler E; Wallot M; Ratjen F
 CS Department of Pediatrics, University of Essen, Germany.
 SO PEDIATRIC PULMONOLOGY, (1997 Sep) 24 (3) 173-7.
 Journal code: OWH. ISSN: 8755-6863.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 199801
 EW 19980104
 AB Nitric oxide (NO) is produced by various cell types in the human respiratory tract. Endogenously produced nitric oxide is detectable in the exhaled air of healthy individuals. Exhaled NO has been shown to be increased in airway inflammation, most probably due to cytokine-mediated activation of NO synthases. To assess whether NO can serve as a marker of inflammation in cystic fibrosis (CF) lung disease, we measured exhaled NO in CF patients with a chemiluminescence analyser. Single **breath measurements** were performed in 27 stable CF patients (age range, 6-40 years) and 30 non-smoking controls (age range, 6-37 years). Exhaled NO concentrations were 9.1 +/- 3.6 ppb in the controls and 5.9 +/- 2.6 ppb (P < 0.001) in CF patients. To account for room air NO concentrations on the measurement of exhaled NO, we also calculated the difference between exhaled NO and ambient NO concentrations. Difference values were also significantly lower in CF compared with controls (P < 0.0001). In CF patients there was a positive correlation between exhaled NO and forced vital capacity (r = 0.43, P = 0.033), suggesting that exhaled NO is lower in patients with severe lung disease than in those with mild disease. We conclude that measurements of exhaled NO in CF does not reflect activity of CF airway inflammation. The decreased concentrations of exhaled NO may be due to inhibitory effects of inflammatory cytokines on NO synthases in the airways and alveolar epithelial cells or to increased retention in airway secretions.

CT Check Tags: Female; Human; Male
 Adolescence
 Adult
 Biological Markers: AN, analysis
Breath Tests
 Case-Control Studies
 Chemiluminescence
 Child
Cystic Fibrosis: CO, complications
***Cystic Fibrosis: ME, metabolism**
***Lung Diseases: DI, diagnosis**
Lung Diseases: ET, etiology
Nitric Oxide: AN, analysis
***Nitric Oxide: BI, biosynthesis**

RN 10102-43-9 (Nitric Oxide)

CN 0 (Biological Markers)

L42 ANSWER 3 OF 18 MEDLINE

AN 97458822 MEDLINE

DN 97458822

TI Nitric oxide production during exercise in chronic heart failure.

AU Adachi H; Nguyen P H; Belardinelli R; Hunter D; Jung T; Wasserman K

CS Division of Respiratory and Critical Care Physiology and Medicine, Harbor-UCLA Medical Center, Torrance, USA.

SO AMERICAN HEART JOURNAL, (1997 Aug) 134 (2 Pt 1) 196-202.

Journal code: 3BW. ISSN: 0002-8703.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Abridged Index Medicus Journals; Priority Journals

EM 199712

EW 19971203

AB In chronic heart failure (CHF), the ventilatory response is increased compared with normal. This response is, in part, caused by reduced perfusion to ventilated lung. Nitric oxide (NO) is a potent vasodilator and may have an important role in pulmonary vasodilatation during exercise. NO is present in exhaled air. The amount of NO in exhaled air, when breathing NO-free compressed air, is known to increase in normal subjects during exercise. In this study, we quantified NO output in exhaled air in patients with CHF during exercise. Six patients with CHF (New York Heart Association Class II and III; two with dilated cardiomyopathy, three with ischemic heart disease, and one with hypertensive heart disease) and six normal subjects were studied with a symptom-limited incremental exercise test on a cycle ergometer. Oxygen uptake (VO_2), carbon dioxide output (VCO_2), and minute ventilation (VE) were measured breath by breath with a mass spectrometer, flow meter, and computer. The NO concentration was continuously measured in mixed expired air by chemiluminescence. Peak exercise work rate was lower in patients with CHF than in normal subjects (71.3 ± 41.6 W vs 257.0 ± 49.7 W; $p < 0.01$). Patients with CHF showed a higher VE/VCO_2 level at peak exercise than normal subjects (CHF, 47.0 ± 10.7 ; normal subjects, 35.6 ± 5.2 ; $p < 0.01$). NO concentration of exhaled air at rest was lower in CHF patients than in normal subjects (4.0 ± 2.2 ppb vs 10.5 ± 6.2 ppb, respectively; $p < 0.05$). NO output from the respiratory tract (VNO) was significantly lower in patients with CHF compared with normal subjects at rest (45.3 ± 24.3 nl/min, 117.5 ± 60.1 nl/min, respectively, $p < 0.05$), and although it increased during exercise, it did not increase in patients with CHF as much as in normal subjects (75.3 ± 43.4 nl/min vs 512.9 ± 253.6 nl/min, respectively; $p < 0.01$). The increase above rest (exercise/rest) was smaller in patients with CHF than in normal subjects (2.10 ± 1.92 vs 4.81 ± 2.67 , $p < 0.05$). These data support the concept that the smaller increase in NO production (VNO) during exercise may be responsible for a blunted vasodilation in patients with CHF, resulting in a smaller reduction in dead space/tidal volume and VE/VCO_2 at the lactic acidosis threshold than normal. This finding may play a role in the abnormally high ventilatory response to exercise in patients with CHF.

CT Check Tags: Human

Adult

Breath Tests

Cardiac Output, Low: ET, etiology
 *Cardiac Output, Low: ME, metabolism
 Cardiac Output, Low: PP, physiopathology
 Cardiomyopathy, Congestive: ME, metabolism
 Cardiomyopathy, Congestive: PP, physiopathology
 Chronic Disease
 *Exercise: PH, physiology
 Exercise Test
 Hypertension: CO, complications
 Hypertension: ME, metabolism
 Hypertension: PP, physiopathology
 Middle Age
 Myocardial Ischemia: CO, complications
 Myocardial Ischemia: ME, metabolism
 Myocardial Ischemia: PP, physiopathology
Nitric Oxide: AN, analysis
 *Nitric Oxide: BI, biosynthesis
Pulmonary Gas Exchange
 Reference Values

RN 10102-43-9 (Nitric Oxide)

L42 ANSWER 4 OF 18 MEDLINE

AN 97331276 MEDLINE

DN 97331276

TI Noninvasive determination of cardiac output in a model of acute lung injury.

AU Arnold J H; Stenz R I; Grenier B; Thompson J E; Arnold L W

CS Department of Anesthesia, Children's Hospital, Boston, MA 02115, USA.

NC HL-02395 (NHLBI)

SO CRITICAL CARE MEDICINE, (1997 May) 25 (5) 864-8.

Journal code: DTF. ISSN: 0090-3493.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Abridged Index Medicus Journals; Priority Journals

EM 199709

EW 19970903

AB OBJECTIVE: To examine the utility of single **breath** CO2

analysis as a noninvasive **measure** of cardiac output in a model of acute lung injury. SETTING: An animal laboratory in a university-affiliated medical center. DESIGN: A prospective, animal cohort study comparing 21 parameters derived from single **breath** CO2 **analysis** with cardiac output determined by an ultrasonic flow probe. SUBJECTS: Six adult sheep with saline lavage-induced acute lung injury. INTERVENTIONS: Animals were treated with repetitive saline lavage to achieve a uniform degree of acute lung injury (PaO2 of < 100 torr [< 13.32 kPa] on an FIO2 of 1.0). Cardiac output was manipulated by successive injections of an hydraulic constrictor placed around the inferior vena cava and measured using an ultrasonic flow probe. Twenty-one derived components of the CO2 expirogram were evaluated as predictors of cardiac output. MEASUREMENTS AND MAIN RESULTS: Thirty-eight measurements of cardiac output were available for comparison with derived variables from the CO2 expirogram. Stepwise linear regression identified four variables for the equation

predicting cardiac output: a) $\text{PaO}_2/\text{FIO}_2$ ratio; b) the angle between the slope lines for phases II and III divided by the tidal volume; c) mixed expired CO_2 tension; and d) physiologic deadspace to tidal volume ratio. The multivariate equation was highly statistically significant and explained 80% of the variance (adjusted $R^2 = .80$, $p < .0001$). The bias and precision of the calculated cardiac output were .00 and .38, respectively. The mean percent difference for the cardiac output estimates derived from the single breath CO_2 analysis station was -0.01% .

CONCLUSIONS: Our results indicate that changes in cardiac output can be determined using components of the CO_2 expirogram with a high degree of reliability in animals with induced acute lung injury. Specifically, the use of four parameters derived from a plot of expired CO_2 concentration vs. expired volume predict changes in cardiac output in adult sheep with induced lung injury with an adjusted coefficient of determination of .80. Prospective application of this technology in the clinical setting with the rapidly changing physiology that is characteristic of the acutely ill patient will be essential in determining the clinical usefulness of single breath CO_2 analysis as a noninvasive measure of cardiac output.

CT Check Tags: Animal; Comparative Study; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.

Acute Disease

Breath Tests

*Carbon Dioxide: AN, analysis

*Cardiac Output

Disease Models, Animal

Lung Diseases: ME, metabolism

*Lung Diseases: PP, physiopathology

Pulmonary Gas Exchange

Regression Analysis

Sheep

RN 124-38-9 (Carbon Dioxide)

L42 ANSWER 5 OF 18 MEDLINE

AN 97292217 MEDLINE

DN 97292217

TI Nitric oxide from the human respiratory tract efficiently quantified by standardized single breath measurements.

AU Hogman M; Stromberg S; Schedin U; Frostell C; Hedenstierna G; Gustafsson E

CS Department of Clinical Physiology, Uppsala University, Sweden.

SO ACTA PHYSIOLOGICA SCANDINAVICA, (1997 Apr) 159 (4) 345-6.

Journal code: 1U4. ISSN: 0001-6772.

CY ENGLAND: United Kingdom

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 199709

EW 19970904

CT Check Tags: Human; Support, Non-U.S. Gov't

*Breath Tests: MT, methods

*Nitric Oxide: AN, analysis

Peak Expiratory Flow Rate: PH, physiology

Positive-Pressure Respiration

Choon Koh STIC/LIBRARY 308-4133

Reproducibility of Results
 *Respiratory System: CH, chemistry
 RN 10102-43-9 (Nitric Oxide)

L42 ANSWER 6 OF 18 MEDLINE
 AN 97191799 MEDLINE
 DN 97191799
 TI Selected ion flow tube: a technique for **quantitative** trace gas **analysis** of air and **breath**.
 AU Spanel P; Smith D
 CS Department of Biomedical Engineering and Medical Physics, Hospital Centre, University of Keele, Stoke-on-Trent, Staffs, UK.
 SO MEDICAL AND BIOLOGICAL ENGINEERING AND COMPUTING, (1996 Nov) 34 (6) 409-19.
 Journal code: LPN. ISSN: 0140-0118.
 CY ENGLAND: United Kingdom
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 EM 199705
 EW 19970504
 AB The selected ion flow tube (SIFT) technique for trace gas **analysis** of air and **breath** is based on soft chemical ionisation of the trace gases to the exclusion of the major air and breath gases, in fast-flowing inert carrier gas, exploiting the ion-molecule reactions that occur between the trace gases and the pre selected precursor ions (H3O+, NO+ and O2+). The physics and ion chemistry involved in the SIFT technique are described, as are the kinetics of the ion-molecule reactions that are exploited to quantitatively analyse the trace gases. Fast on-line data-acquisition hardware and software have been developed to analyse the mass spectra obtained, from which partial pressures of the trace gases down to about 10 parts per billion can be measured. The time response of the instrument is 20 ms, allowing the profiles of the trace gas concentrations on breath to be obtained during a normal breathing cycle. Pilot results obtained with this SIFT technique include **detection** and **quantification** of the most abundant **breath** trace gases, **analysis** of cigarette smoke, **detection** of gases present on smokers' **breath** and accurate **measurement** of the partial pressures of NH3, NO and NO2 in air. The simultaneous **analysis** of several **breath** trace gases during a single exhalation is clearly demonstrated, and thus different elution times for isoprene and methanol along the respiratory tract are observed. This technique has great potential in many clinical and biological disciplines, and in health and safety monitoring.

CT Check Tags: Human; Support, Non-U.S. Gov't
 Air Ionization
 Ammonia: AN, analysis
 *Breath Tests: MT, methods
 *Environmental Monitoring: MT, methods
 *Gases: AN, analysis
 Nitric Oxide: AN, analysis
 Nitrogen Dioxide: AN, analysis
 Spectrum Analysis, Mass: MT, methods
 RN 10102-43-9 (Nitric Oxide); 10102-44-0 (Nitrogen Dioxide); 7664-41-7 (Ammonia)
 CN 0 (Gases)

L42 ANSWER 7 OF 18 MEDLINE
 AN 97154604 MEDLINE
 DN 97154604
 TI Marked flow-dependence of exhaled nitric oxide using a new technique to exclude nasal nitric oxide.
 AU Silkoff P E; McClean P A; Slutsky A S; Furlott H G; Hoffstein E; Wakita S; Chapman K R; Szalai J P; Zamel N
 CS Department of Medicine, the University of Toronto, Ontario, Canada.
 SO AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE, (1997 Jan) 155 (1) 260-7.
 Journal code: BZS. ISSN: 1073-449X.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Abridged Index Medicus Journals; Priority Journals
 EM 199704
 EW 19970403
 AB Exhaled nitric oxide (NO) may aid in **monitoring** pulmonary disease. The single-breath NO profile (subjects with nose clip) was described as a NO peak followed by a plateau (NO(PLAT)). Published exhaled NO values vary greatly, possibly due to contamination with nasal NO and differing respiratory maneuvers. We developed a technique to measure pulmonary NO, without nasal NO, by having the subject maintain a positive expiratory pressure (ensuring velum closure), and we examined the variation in NO(PLAT) over a range of expiratory flows (4.2 to 1,550 ml/s). NO(PLAT) values rose almost 35-fold (3.2 +/- 1.4 ppb to 110.5 +/- 54.8 ppb) with decreasing flow, described by $\text{NO(PLAT)} = 208.6795 \times (\text{flow rate})^{-0.5995}$. However, NO excretion showed an almost 11-fold rise as flow increased. In summary, we present a simple technique for measuring exhaled NO without contamination by nasal NO. There is a marked flow dependence of exhaled NO concentration and excretion. Exhaled pulmonary NO is best measured at very low flow rates to amplify the signal and must be related to the expiratory flow employed.
 CT Check Tags: Human; Support, Non-U.S. Gov't
 Administration, Inhalation
 Adolescence
 Adult
 *Breath Tests: MT, methods
 Middle Age
 Nasal Cavity: ME, metabolism
 *Nitric Oxide: AN, analysis
 Nitric Oxide: ME, metabolism
 Reproducibility of Results
 RN 10102-43-9 (Nitric Oxide)

L42 ANSWER 8 OF 18 MEDLINE
 AN 97028234 MEDLINE
 DN 97028234
 TI Origins of breath nitric oxide in humans [see comments].
 CM Comment in: Chest 1996 Oct;110(4):873-4
 AU Dillon W C; Hampl V; Shultz P J; Rubins J B; Archer S L
 CS Department of Medicine, VA Medical Center, Minneapolis, MN, USA.
 NC HL45735 (NHLBI)
 SO CHEST, (1996 Oct) 110 (4) 930-8.

Journal code: D1C. ISSN: 0012-3692.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Abridged Index Medicus Journals; Priority Journals; Cancer Journals

EM 199701

AB STUDY OBJECTIVES: Nitric oxide (NO) exists in the human breath, but little is known about its site of origin or enzyme source. The aims of this study were to locate the main site of NO release into human breath and to decide whether the inducible isoform of NO synthase (iNOS) and nasal bacteria contribute to **breath** NO. DESIGN: Using a chemiluminescence **assay**, NO levels were **measured** in air exhaled from the nose, mouth, trachea, and distal airway. The susceptibility of breath NO to treatment with a topical corticosteroid (to inhibit iNOS; intranasal beclomethasone dipropionate for 2 weeks) and with antibiotics (systemic amoxicillin plus clavulanic acid and intranasal bacitracin zinc, 5 to 10 days) was also tested. PARTICIPANTS: Twenty-one healthy subjects, 9 intubated patients, and 7 patients undergoing bronchoscopy. All subjects were nonsmokers free of pneumonia, rhinitis, and bronchitis. MEASUREMENTS AND RESULTS: **Breath** NO levels, collected in the gas sampling bags, were greater ($p < 0.05$) in the nose (25 ± 2 parts per billion [ppb]) than in the mouth (6 ± 1 ppb), trachea (3 ± 1 ppb), or distal airway (1 ± 2 ppb). Similar results were obtained when NO was sampled directly by cannula from nose or mouth during resting breathing. Nasal breath NO signal increased sharply during 30 s of breath-holding. Beclomethasone, but not antibiotics, decreased nasal NO levels without changing oral breath NO. CONCLUSIONS: Most NO in normal human breath derives locally from the nose where it can reach high levels during breath-holding. NO is synthesized, at least in part, by a steroid-inhibitable, nonbacterial, NO synthase, presumably iNOS.

CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't; Support, U.S. Gov't, Non-P.H.S.; Support, U.S. Gov't, P.H.S.
Adult

*Breath Tests
Chemiluminescence
Monitoring, Physiologic: MT, methods
Nitric Oxide: AN, analysis
*Nitric Oxide: BI, biosynthesis
*Respiratory Physiology
*Respiratory System: PH, physiology

RN 10102-43-9 (Nitric Oxide)

L42 ANSWER 9 OF 18 MEDLINE

AN 97028222 MEDLINE

DN 97028222

TI Endogenous nitric oxide in exhaled human **breath**. A new means of **monitoring** airway disease activity or another no-no? [editorial; comment].

CM Comment on: Chest 1996 Oct;110(4):930-8

AU Brett S J; Evans T W

SO CHEST, (1996 Oct) 110 (4) 873-4.

Journal code: D1C. ISSN: 0012-3692.

CY United States

DT Commentary

Editorial
 LA English
 FS Abridged Index Medicus Journals; Priority Journals; Cancer Journals
 EM 199701
 CT Check Tags: Human
 *Breath Tests
 Monitoring, Physiologic
 *Nitric Oxide: AN, analysis
 Nitric Oxide: BI, biosynthesis
 *Respiratory Physiology
 *Respiratory System: PH, physiology
 RN 10102-43-9 (Nitric Oxide)

L42 ANSWER 10 OF 18 MEDLINE
 AN 96388278 MEDLINE
 DN 96388278
 TI Reduction of pulmonary capillary blood volume in patients with
 severe unexplained pulmonary hypertension.
 AU Borland C; Cox Y; Higenbottam T
 CS Department of Respiratory Physiology, Papworth Hospital, Cambridge,
 UK.
 SO THORAX, (1996 Aug) 51 (8) 855-6.
 Journal code: VQW. ISSN: 0040-6376.
 CY ENGLAND: United Kingdom
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals; Cancer Journals
 EM 199612
 AB BACKGROUND: Unexplained or primary pulmonary hypertension results in
 an obliteration and obstruction of resistance pulmonary arteries. In
 these patients gas exchange is impaired and the measurement of gas
 transfer for carbon monoxide is usually reduced. This has been
 thought to represent a reduction in pulmonary alveolar capillary
 blood volume (Vc). A single **breath test, measuring**
 simultaneously the uptake of both nitric oxide (NO) and carbon
 monoxide (CO), provides a simple and practical measurement of
 membrane diffusion (Dm) and Vc. METHODS: A standard single
 breath test for the measurement of gas transfer
 for carbon monoxide (TLCO) was adapted to include NO (40 ppm) in the
 inhaled gas mixture and a breath-hold time at total lung capacity of
 7.5 seconds was used. Twelve patients with primary pulmonary
 hypertension and 10 similar normal volunteers were studied while
 seated at rest. RESULTS: The patients had reduced values for TLCO
 and TLNO. The mean (SD) value of Dm in the patients was 36.7 (32.1)
 mmol/min.kPa compared with 52.8 (23.9) mmol/min.kPa in the normal
 subjects. Vc in the patients was 0.03 (0.03) l and 0.06 (0.01) l in
 the normal subjects. CONCLUSIONS: The simultaneous measurement of NO
 and CO uptake is possible in healthy volunteers and patients with
 primary hypertension. In these patients capillary blood volume is
 reduced compared with normal subjects.
 CT Check Tags: Female; Human; Male
 Adult
 *Blood Volume
 Breath Tests
 Capillaries
 Carbon Monoxide: AN, analysis
 *Hypertension, Pulmonary: PP, physiopathology
 Choon Koh STIC/LIBRARY 308-4133

Nitric Oxide: AN, analysis
***Pulmonary Alveoli: PP, physiopathology**
Pulmonary Gas Exchange

RN 10102-43-9 (Nitric Oxide); 630-08-0 (Carbon Monoxide)

L42 ANSWER 11 OF 18 MEDLINE

AN 96036517 MEDLINE

DN 96036517

TI Effect of colonic fermentation on respiratory gas exchanges measured in the postabsorptive state.

AU Heresbach D; Flourie B; Briet F; Achour L; Rambaud J C; Messing B

CS INSERM U290, Hopital Saint-Lazare Paris, France..

SO AMERICAN JOURNAL OF CLINICAL NUTRITION, (1995 Nov) 62 (5) 973-8.

Journal code: 3EY. ISSN: 0002-9165.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Abridged Index Medicus Journals; Priority Journals

EM 199601

AB To assess the effect of colonic fermentation on respiratory gas exchanges, six methane-nonproducing healthy volunteers ingested in the postabsorptive state 1 wk apart either 90 mL lactulose syrup containing 60 g lactulose, 4 g lactose, and 7 g galactose or the same solution but without lactulose (control solution). Six patients with short bowel and remnant colon (SBS) also ingested 90 mL lactulose syrup. Carbon dioxide production (VCO₂), oxygen consumption (VO₂), respiratory quotient (RQ), and hydrogen excreted in **breath** were **measured** basally and for 4 h after the ingestion of solutions. In healthy volunteers within 4 h after ingestion of the control solution, VCO₂ and the RQ decreased whereas VO₂ remained unchanged. In contrast, in healthy volunteers and patients with SBS, VCO₂ and the RQ increased after lactulose ingestion, whereas VO₂ did not change. The increase in VCO₂ appeared to be accounted for mainly by bacterial production of carbon dioxide and was significantly related to breath-hydrogen concentration ($r = 0.56$, $P < 0.02$ for healthy subjects; $r = 0.59$, $P < 0.01$ for SBS subjects). A breath-hydrogen test should be performed in conjunction with indirect calorimetry to determine whether colonic fermentation is taking place and, if so, to correct appropriately the VCO₂ value in calorimetric equations.

CT Check Tags: Female; Human; Male

Adult

Basal Metabolism

Breath Tests

Calorimetry, Indirect

Carbon Dioxide: AN, analysis

Carbon Dioxide: ME, metabolism

*Colon: ME, metabolism

*Dietary Carbohydrates: ME, metabolism

Fermentation: PH, physiology

Hydrogen: AN, analysis

Hydrogen: ME, metabolism

*Intestinal Absorption: PH, physiology

Lactulose: ME, metabolism

Middle Age

Oxidation-Reduction

Oxygen Consumption

*Pulmonary Gas Exchange: PH, physiology
 *Short Bowel Syndrome: ME, metabolism
 RN 124-38-9 (Carbon Dioxide); 1333-74-0 (Hydrogen); 4618-18-2
 (Lactulose)
 CN 0 (Dietary Carbohydrates)

L42 ANSWER 12 OF 18 MEDLINE
 AN 95111584 MEDLINE
 DN 95111584
 TI Measurement of 13CO₂ in expired air as an index of compliance to a
 high carbohydrate diet naturally enriched in 13C.
 AU Gay L J; Schutz Y; DiVetta V; Schneiter P; Tappy L; Jequier E
 CS Institute of Physiology, Faculty of Medicine, Lausanne, Switzerland.
 SO INTERNATIONAL JOURNAL OF OBESITY AND RELATED METABOLIC DISORDERS,
 (1994 Sep) 18 (9) 591-5.
 Journal code: BTX.
 CY ENGLAND: United Kingdom
 DT (CLINICAL TRIAL)
 (CONTROLLED CLINICAL TRIAL)
 Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 199504
 AB The aim of this study was to determine whether **breath**
 13CO₂ **measurements** could be used to assess the compliance
 to a diet containing carbohydrates naturally enriched in 13C. The
 study was divided into two periods: Period 1 (baseline of 4 days)
 with low 13C/12C ratio carbohydrates. Period 2 (5 days) isocaloric
 diet with a high 13C/12C ratio (corn, cane sugar, pineapple, millet)
 carbohydrates. Measurements were made of respiratory gas exchange by
 indirect calorimetry, urinary nitrogen excretion and breath 13CO₂
 every morning in post-absorptive conditions, both in resting state
 and during a 45-min low intensity exercise (walking on a treadmill).
 The subjects were 10 healthy lean women (BMI 20.4 +/- 1.7 kg/m², %
 body fat 24.4 +/- 1.3%), the 13C enrichment of oxidized carbohydrate
 and breath 13CO₂ were compared to the enrichment of exogenous
 dietary carbohydrates. At rest the enrichment of oxidized
 carbohydrate increased significantly after one day of 13C
 carbohydrate enriched diet and reached a steady value (103 +/- 16%)
 similar to the enrichment of exogenous carbohydrates. During
 exercise, the 13C enrichment of oxidized carbohydrate remained
 significantly lower (68 +/- 17%) than that of dietary carbohydrates.
 The compliance to a diet with a high content of carbohydrates
 naturally enriched in 13C may be assessed from the
measurement of breath 13CO₂ enrichment combined
 with respiratory gas exchange in resting, postabsorptive conditions.

CT Check Tags: Female; Human
 Adult
 Body Composition
Breath Tests
 Calorimetry, Indirect
 *Carbon Dioxide: AN, analysis
 Carbon Isotopes
 *Dietary Carbohydrates: AD, administration & dosage
 Energy Intake
 Energy Metabolism
 Exercise: PH, physiology

Exercise Test
 Nitrogen: UR, urine
 Oxidation-Reduction
 Patient Compliance
Pulmonary Gas Exchange
 RN 124-38-9 (Carbon Dioxide); 7727-37-9 (Nitrogen)
 CN 0 (Carbon Isotopes); 0 (Dietary Carbohydrates)

L42 ANSWER 13 OF 18 MEDLINE
 AN 94104381 MEDLINE
 DN 94104381
 TI Single-breath nitric oxide measurements in
 asthmatic patients and smokers.
 AU Persson M G; Zetterstrom O; Agrenius V; Ihre E; Gustafsson L E
 CS Department of Physiology, Karolinska Institute, Stockholm, Sweden..
 SO LANCET, (1994 Jan 15) 343 (8890) 146-7.
 Journal code: LOS. ISSN: 0140-6736.
 CY ENGLAND: United Kingdom
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Abridged Index Medicus Journals; Priority Journals; Cancer Journals
 EM 199404
 AB Exhaled nitric oxide (NO) concentrations were measured in asthmatic
 outpatients and in non-smoking and smoking healthy controls. In
 single exhalations, NO showed a peak suggestive of airway origin in
 both controls and asthmatic patients. The peak NO concentration was
 higher in asthmatic patients and lower in smokers than in
 non-smoking controls ($p < 0.05$). The findings support a role for NO
 in the host defence response in asthma and suggest that NO
 measurements can discriminate between different types of lung
 disorders.
 CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't
 Adult
 *Asthma: ME, metabolism
 Asthma: PP, physiopathology
 Breath Tests
 *Nitric Oxide: AN, analysis
 Respiration: PH, physiology
 *Smoking: ME, metabolism
 Smoking: PP, physiopathology
 RN 10102-43-9 (Nitric Oxide)

L42 ANSWER 14 OF 18 MEDLINE
 AN 91257509 MEDLINE
 DN 91257509
 TI Reproducibility of measurements of trace gas concentrations in
 expired air [see comments].
 CM Comment in: Gastroenterology 1992 Feb;102(2):740-1
 AU Strocchi A; Ellis C; Levitt M D
 CS Research Service, Veterans Affairs Medical Center, Minneapolis,
 Minnesota..
 NC 2 RO1 DK13309-22 (NIDDK)
 SO GASTROENTEROLOGY, (1991 Jul) 101 (1) 175-9.
 Journal code: FH3. ISSN: 0016-5085.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English

FS Abridged Index Medicus Journals; Priority Journals; Cancer Journals
 EM 199109
 AB Measurement of the **pulmonary** excretion of trace
gases has been used as a simple means of assessing metabolic
 reactions. End alveolar trace gas concentration, rather than
 excretory rate, is usually measured. However, the reproducibility of
 this measurement has received little attention. In 17 healthy
 subjects, duplicate collections of alveolar air were obtained within
 1 minute of each other using a commercially available alveolar air
 sampler. The concentrations of hydrogen, methane, carbon monoxide,
 and carbon dioxide were measured. When the subject received no
 instruction on how to expire into the device, a difference of 28%
 +/- 19% (1SD) was found between duplicate determinations of
 hydrogen. Instructing the subjects to avoid hyperventilation or to
 inspire maximally and exhale immediately resulted in only minor
 reduction in variability. However, a maximal inspiration held for 15
 seconds before exhalation reduced the difference to a mean of 9.6%
 +/- 8.0%, less than half that observed with the other expiratory
 techniques. Percentage difference of methane measurements with the
 four different expiratory techniques yielded results comparable to
 those obtained for hydrogen. In contrast, percentage differences for
 carbon monoxide measurements were similar for all expiratory
 techniques. When normalized to a PCO₂ of 5%, the variability of
 hydrogen **measurements** with the **breath**-holding
 technique was reduced to 6.8% +/- 4.7%, a value significantly lower
 than that obtained with the other expiratory methods. This study
 suggests that attention to the expiratory technique could improve
 the accuracy of tests using **breath** hydrogen
measurements.
 CT Check Tags: Human; Support, U.S. Gov't, Non-P.H.S.; Support, U.S.
 Gov't, P.H.S.
 *Breath Tests: MT, methods
 Carbon Dioxide: AN, analysis
 Carbon Monoxide: AN, analysis
 *Gases: AN, analysis
 Hydrogen: AN, analysis
 Methane: AN, analysis
 Reference Values
 Reproducibility of Results
 RN 124-38-9 (Carbon Dioxide); 1333-74-0 (Hydrogen); 630-08-0 (Carbon
 Monoxide); 74-82-8 (Methane)
 CN 0 (Gases)
 L42 ANSWER 15 OF 18 MEDLINE
 AN 90284471 MEDLINE
 DN 90284471
 TI Recovery of [13C]-bicarbonate as respiratory 13CO₂ in parenterally
 fed infants.
 AU Bresson J L; Mariotti A; Narcy P; Ricour C; Sachs C; Rey J
 CS Departement de Pediatrie, CNRS UA 1286, Hopital des Enfants Malades,
 Paris, France.
 SO EUROPEAN JOURNAL OF CLINICAL NUTRITION, (1990 Jan) 44 (1) 3-9.
 Journal code: EJC. ISSN: 0954-3007.
 CY ENGLAND: United Kingdom
 DT (CLINICAL TRIAL)
 Journal; Article; (JOURNAL ARTICLE)
 (RANDOMIZED CONTROLLED TRIAL)

LA English
 FS Priority Journals
 EM 199009
 AB Ten infants on continuous total parenteral nutrition (TPN) were infused with $\text{NaH}^{13}\text{CO}_3$ for 6 h in order to assess the amount of ^{13}C recovered as breath $^{13}\text{CO}_2$. Protein intake was 2.8 ± 0.3 g/kg/d and non-protein energy intake 107 ± 4 kcal/kg/d (447 ± 18 kJ/kg/d), provided either as glucose alone or as an isoenergetic glucose-lipid mixture. In the five infants receiving glucose as the sole non-protein energy source, total CO_2 production (559 ± 50 mmol/kg/min), natural ^{13}C abundance of breath CO_2 (-11.8 ± 0.6 delta % versus PDB) and basal $^{13}\text{CO}_2$ production (6.1 ± 0.6 mmol/kg/min) were higher than in the five infants infused the glucose-lipid mixture (465 ± 30 mmol/kg/min, P less than 0.02; -16.1 ± 0.5 delta %, P less than 0.01 and 5.0 ± 0.3 mmol/kg min, P less than 0.02, respectively). There was a good agreement, in the glucose-infused infants, between the net glucose oxidation rate measured by indirect calorimetry (25.6 ± 2 g/kg/d) and the glucose oxidation rate **estimated** from the ^{13}C natural abundances of **breath** CO_2 and infused substrates (23.5 ± 3 g/kg/d). Steady state ^{13}C enrichment of breath CO_2 was reached in all infants after 120 min infusion and ranged from 11.0 to 21.5 delta % over baseline. Steady state ^{13}C enrichment was negatively related to total CO_2 production ($r = -0.72$; P less than 0.02). In contrast, steady state $^{13}\text{CO}_2$ production in excess of baseline was only correlated to bicarbonate infusion rate ($r = 0.95$; P less than 0.001). (ABSTRACT TRUNCATED AT 250 WORDS)

CT Check Tags: Human; Support, Non-U.S. Gov't
 Bicarbonates: AD, administration & dosage
 *Bicarbonates: ME, metabolism
Breath Tests
 Calorimetry, Indirect
 Carbon: AN, analysis
 Carbon: ME, metabolism
Carbon Dioxide: AN, analysis
 *Carbon Dioxide: ME, metabolism
 Carbon Isotopes
 *Food, Formulated
 Glucose: AD, administration & dosage
 Glucose: ME, metabolism
 Infant
 Infusions, Intravenous
 Oxidation-Reduction
 *Parenteral Nutrition, Total
Pulmonary Gas Exchange
 Sodium: AD, administration & dosage
 *Sodium: ME, metabolism

RN 124-38-9 (Carbon Dioxide); 144-55-8 (Sodium Bicarbonate); 50-99-7 (Glucose); 7440-23-5 (Sodium); 7440-44-0 (Carbon)

CN 0 (Bicarbonates); 0 (Carbon Isotopes)

L42 ANSWER 16 OF 18 MEDLINE
 AN 88092910 MEDLINE
 DN 88092910
 TI **Breath-by-breath measurement of**
 alveolar gas exchange with a slow-response gas analyser.

AU Yamamoto Y; Takei Y; Mokushi K; Morita H; Mutoh Y; Miyashita M
 Choon Koh STIC/LIBRARY 308-4133

SO MEDICAL AND BIOLOGICAL ENGINEERING AND COMPUTING, (1987 Mar) 25 (2)
141-6.

Journal code: LPN. ISSN: 0140-0118.

CY ENGLAND: United Kingdom

DT Journal; Article; (JOURNAL ARTICLE)

LA English

EM 198804

CT Check Tags: Human

***Breath Tests: MT, methods**

Carbon Dioxide: AN, analysis

Models, Biological

Oxygen: AN, analysis

***Pulmonary Gas Exchange**

RN 124-38-9 (Carbon Dioxide); 7782-44-7 (Oxygen)

L42 ANSWER 17 OF 18 MEDLINE

AN 83205334 MEDLINE

DN 83205334

TI Quantification of the effect of gas exchange on the slope of phase
III.

AU Cormier Y; Belanger J

SO BULLETIN EUROPEEN DE PHYSIOPATHOLOGIE RESPIRATOIRE, (1983 Jan-Feb)
19 (1) 13-6.

Journal code: BGX. ISSN: 0395-3890.

CY ENGLAND: United Kingdom

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 198309

AB It was previously shown that gas exchange could contribute to the
rising slope of phase III of the single-breath nitrogen
(SB-N2) test. This study was done to **quantify** this role.
We studied eight normal volunteers with a series of SB-N2 derived
tests where the RV gas was progressively changed from room air to
90% O2 and 10% N2, by 10% increments in O2 and 10% decreases in N2
concentrations (i.e. room air, 70% N2 30% O2, 60% N2 40% O2, etc.).
A similar series of SB-R (single-breath reversed gradients test)
derived tests was done. Here the RV contained 100% O2 by previous
washout, while the inspired gas was changed by 105 steps from room
air to 10% N2 90% O2. We therefore have a situation where dilutional
N2 gradients change with the % N2, in either the RV or the inspired
gas. However, the alveolar volume loss remains the same for all
tests. The mean +/- SD slope of phase III in the SB-N2 series for
our eight subjects decreased from 0.87 +/- 0.25 with room air to
0.14 +/- 0.07 with 10% N2 90% O2, while its steepness in the SB-R
series decreased from 0.62 +/- 0.23 with the inspired room air to
0.11 +/- 0.06 with the final inspiration being 10% N2 90% O2. From
these data, we could calculate that the mean % contribution of gas
exchange to the slope of phase III was 10.2%.

CT Check Tags: Human; Support, Non-U.S. Gov't

***Breath Tests**

Carbon Dioxide: AN, analysis

Nitrogen: DU, diagnostic use

Oxygen: AD, administration & dosage

Oxygen: AN, analysis

Pulmonary Diffusing Capacity

***Pulmonary Gas Exchange**

Choon Koh STIC/LIBRARY 308-4133

Residual Volume
Total Lung Capacity

RN 124-38-9 (Carbon Dioxide); 7727-37-9 (Nitrogen); 7782-44-7 (Oxygen)

L42 ANSWER 18 OF 18 MEDLINE

AN 82097811 MEDLINE

DN 82097811

TI **Breath-by-breath measurement of true**
alveolar gas exchange.

AU Beaver W L; Lamarra N; Wasserman K

SO JOURNAL OF APPLIED PHYSIOLOGY: RESPIRATORY, ENVIRONMENTAL AND
EXERCISE PHYSIOLOGY, (1981 Dec) 51 (6) 1662-75.
Journal code: HAL. ISSN: 0161-7567.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 198205

AB A method has been developed for on-line **breath-by-breath calculation** of alveolar gas exchange by correcting the gas exchange measured at the mouth for changes in **lung gas** stores. The corrections are applied to the total **lung gas** exchange, which is found by directly subtracting expired from inspired volume of each gas. Corrections are made for both breath-to-breath changes in lung volumes and changes in alveolar **gas** concentrations. The **lung** volume correction term has the effect of reducing the large error sensitivity of O2 exchange that has, in the past, resulted from direct determination by total **lung gas** exchange. Error each gas. Corrections are made for both breath-to-breath changes in lung volumes and changes in alveolar **gas** concentrations. The **lung** volume correction term has the effect of reducing the large error sensitivity of O2 exchange that has, in the past, resulted from direct determination by total **lung gas** exchange. Error each gas. Corrections are made for both breath-to-breath changes in lung volumes and changes in alveolar **gas** concentrations. The **lung** volume correction term has the effect of reducing the large error sensitivity of O2 exchange that has, in the past, resulted from direct determination by total **lung gas** exchange. Error sensitivity analysis shows that the effect of inaccuracies due to errors in measuring gas flow or gas concentrations are similar in magnitude to those in the open-circuit method that has traditionally been used. The algorithm for alveolar gas exchange has been implemented in a computer program for on-line respiratory analysis alongside the open-circuit calculation of gas exchange at the mouth that has been used in out laboratory. By use of several experimental studies, it is shown that there are very apparent **breath-to-breath** differences between the gas exchange measured by the two methods. During metabolic and respiratory transients, these differences often have significant influence on interpretation of the underlying physiology.

CT Check Tags: Human

*Breath Tests

Carbon Dioxide: AN, analysis

Functional Residual Capacity

Lung Volume Measurements
 Mathematics
 Oxygen: AN, analysis
 *Pulmonary Alveoli: ME, metabolism
 *Respiration
 *Respiratory Function Tests: MT, methods
 Time Factors
 RN 124-38-9 (Carbon Dioxide); 7782-44-7 (Oxygen)

=> d 144 1-5 all

L44 ANSWER 1 OF 5 MEDLINE
 AN 1998071483 MEDLINE
 DN 98071483
 TI Surfactant replacement therapy improves ventilation inhomogeneity in infants with respiratory distress syndrome.
 AU Sandberg K L; Lindstrom D P; Sjoqvist B A; Parker R A; Cotton R B
 CS Gothenburg University, Department of Pediatrics, Sweden.
 SO PEDIATRIC PULMONOLOGY, (1997 Nov) 24 (5) 337-43.
 Journal code: OWH. ISSN: 8755-6863.
 CY United States
 DT (CLINICAL TRIAL)
 (CONTROLLED CLINICAL TRIAL)
 Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 199803
 EW 19980302
 AB Surfactant deficiency in newborn infants with hyaline membrane disease (HMD) reduces peripheral airway stability, leading to lung atelectasis, inhomogeneity of distribution of ventilation, ventilation/perfusion mismatch, and hypoxemia. The aim of this study was to evaluate the immediate effect of exogenous surfactant treatment on ventilation inhomogeneity (VIH) in infants with HMD. Homogeneity of ventilation was measured repeatedly in ten infants (median gestational age 30 weeks and birthweight 1.50 kg) after Exosurf, and in six infants (median gestational age 30 weeks and birthweight 1.42 kg) after Surfactant treatment. Lung function was measured before and 0.5, 2, and 6 hours after administration of a single dose of surfactant. The multiple **breath** nitrogen washout method was used to **measure** the time pattern of nitrogen elimination from the lungs. VIH was evaluated by using both a compartmental lung model and a model-independent moment analysis. The two-compartment lung model was found to dominate before surfactant treatment, while a single-compartment model (implying homogeneous ventilation) fitted the washout data best 6 hours after Exosurf treatment ($P < 0.01$). The same pattern occurred 2 hours after Surfactant administration. Moment analysis confirmed the reduction in VIH by both surfactants. This study supports the hypothesis that the improved oxygenation after surfactant treatment in infants with HMD results from a reduction in VIH and an increase in functional residual capacity (FRC).

CT Check Tags: Comparative Study; Human; Support, Non-U.S. Gov't
 Analysis of Variance
Breath Tests
 Double-Blind Method
 Drug Combinations

*Fatty Alcohols: TU, therapeutic use
 Infant, Newborn
 Linear Models
 Nitrogen: AN, analysis
 *Polyethylene Glycols: TU, therapeutic use
 Positive-Pressure Respiration
 Pulmonary Gas Exchange: DE, drug effects
 *Pulmonary Surfactants: TU, therapeutic use
 *Pulmonary Ventilation: DE, drug effects
 *Respiratory Distress Syndrome: DT, drug therapy
 Respiratory Distress Syndrome: PP, physiopathology
 RN 108778-82-1 (beractant); 7727-37-9 (Nitrogen); 99732-49-7 (Exosurf)
 CN 0 (Drug Combinations); 0 (Fatty Alcohols); 0 (Polyethylene Glycols);
 0 (Pulmonary Surfactants)

L44 ANSWER 2 OF 5 MEDLINE

AN 97427126 MEDLINE

DN 97427126

TI A method to evaluate upper airway mechanics following intervention
 in snorers.

AU Woodson B T; Feroah T; Connolly L A; Toohill R J

CS Department of Otolaryngology and Human Communication, Medical
 College of Wisconsin, Milwaukee, USA.

SO AMERICAN JOURNAL OF OTOLARYNGOLOGY, (1997 Sep-Oct) 18 (5) 306-14.
 Journal code: 32W. ISSN: 0196-0709.

CY United States

DT (CLINICAL TRIAL)

Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 199801

AB PURPOSE: To describe a method that measures multisegment upper
 airway changes following intervention for snoring and obstructive
 apnea that controls for physiological fluctuations during sleep.
 PATIENTS AND METHODS: Retropalatal, retroglossal, and retrohyoid
 airway segments were evaluated before and after application of an
 oral appliance (OA) in four snoring subjects. Twelve airway segments
 were evaluated. Physiological fluctuations during sleep were
 controlled with variably applied nasal continuous positive pressure
 (CPAP), benzodiazepam-induced sleep, and obtaining **measures**
 at zero flow on the first test **breath**. Airway area was
measured endoscopically. RESULTS: The methodology identified
 that following intervention with an OA, maximum retroglossal airway
 size increased 23.3% +/- 7.5% (P < .05) and retrohyoid size
 decreased -63.5% +/- 16.0% (P < .05). No changes in retropalatal
 area (-2.5% +/- 3.0%) or closing pressure were observed. The level
 of primary obstruction shifted inferiorly in one patient. Airway
 measures prior to intervention showed small alterations of applied
 pressure (1 cm H2O) changed retropalatal and retroglossal area an
 average of 10% +/- 0.9%/cm H2O. CONCLUSION: The mechanical effects
 of limited airway intervention can be measured with a hypotonic,
 pressure-controlled methodology. At small airway areas, the airway
 is highly collapsible and airway size fluctuates. Small changes in
 applied or physiological forces may alter the airway as
 significantly as the effects of the intervention being evaluated.
 The hypotonic upper airway method provides a method to control
 airway collapse and evaluate interventions, such as OA or surgery,

for snoring and obstructive sleep apnea syndrome.

CT Check Tags: Comparative Study; Human
 Biomechanics
Breath Tests
 Orthodontic Appliances
Positive-Pressure Respiration
 *Pulmonary Ventilation
 Sleep Apnea Syndromes: SU, surgery
 *Snoring: SU, surgery
 Snoring: TH, therapy

L44 ANSWER 3 OF 5 MEDLINE
 AN 96035495 MEDLINE
 DN 96035495
 TI Effects of nasal positive-pressure hyperventilation on the glottis
 in normal awake subjects.
 AU Jounieaux V; Aubert G; Dury M; Delguste P; Rodenstein D O
 CS Pneumology Unit, Cliniques Universitaires Saint Luc, Universite
 Catholique de Louvain, Brussels, Belgium..
 SO JOURNAL OF APPLIED PHYSIOLOGY, (1995 Jul) 79 (1) 176-85.
 Journal code: HEG. ISSN: 8750-7587.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 199601
 AB We have recently observed obstructive apneas during nasal
 intermittent positive-pressure ventilation (nIPPV) and suggested
 that they were due to hypocapnia-induced glottic closure. To confirm
 this hypothesis, we studied seven healthy subjects and submitted
 them to nIPPV while their glottis was continuously **monitored**
 through a fiber-optic bronchoscope. During wakefulness, we
measured breath by breath the widest
 inspiratory angle formed by the vocal cords at the anterior
 commissure along with several other indexes. Mechanical ventilation
 was progressively increased up to 30 l/min. In the absence of
 diaphragmatic activity, increases in delivered minute ventilation
 resulted in progressive narrowing of the vocal cords, with an
 increase in inspiratory resistance and a progressive reduction in
 the percentage of the delivered tidal volume effectively reaching
 the lungs. Adding CO2 to the inspired gas led to partial widening of
 the glottis in two of three subjects. Moreover, activation of the
 diaphragmatic muscle was always associated with a significant
 inspiratory abduction of the vocal cords. Sporadically, complete
 adduction of the vocal cords was directly responsible for
 obstructive laryngeal apneas and cyclic changes in the glottic
 aperture resulted in waxing and waning of tidal volume. We conclude
 that in awake humans passive ventilation with nIPPV results in vocal
 cord adduction that depends partly on hypocapnia, but our results
 suggest that other factors may also influence glottic width.

CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't
 Adult
 Diaphragm: PP, physiopathology
 *Glottis: PP, physiopathology
 Hypercapnia: PP, physiopathology
 *Hyperventilation: PP, physiopathology
 *Nose

***Positive-Pressure Respiration**
Reference Values

L44 ANSWER 4 OF 5 MEDLINE
AN 95313860 MEDLINE
DN 95313860
TI **Measurement of tidal flow using a transit-time ultrasonic breath analyser.**
AU Williams E M; Burrough S L; McPeak H
CS Nuffield Department of Anaesthetics, University of Oxford, Radcliffe Infirmary, UK.
SO ANAESTHESIA, (1995 May) 50 (5) 427-32.
Journal code: 4MC. ISSN: 0003-2409.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 199509
AB The ability of the Transit-time Ultrasonic **Breath Analyser** (TUBA, GHG Medical Electronics GMBH, Zurich, Switzerland) to **measure** peak flow and tidal volume in the laboratory was tested using a variety of flow and pressure conditions, chosen to simulate the respiratory patterns of patients receiving mechanical ventilatory support. A stable zero baseline was achieved by acoustic damping of the TUBA flow sensor head. A piston pump was used to generate sinusoidal flow pattern, with a peak flow range from 0.1 to 1.5 l.s⁻¹. The calculated peak flow matched the peak flow measured by the TUBA. The TUBA accurately measured tidal volumes (+/- 10%) delivered using three different flow patterns over a range of volumes from 0.25 to 1 l. We conclude, that once modified, the TUBA can provide an accurate measurement of peak flow and tidal volume over a range of values likely to be encountered during mechanical ventilation of the lungs.
CT Check Tags: Human; Support, Non-U.S. Gov't
***Breath Tests: IS, instrumentation**
***Peak Expiratory Flow Rate**
Positive-Pressure Respiration
Respiration, Artificial
***Tidal Volume**
***Ultrasonography: IS, instrumentation**

L44 ANSWER 5 OF 5 MEDLINE
AN 86246549 MEDLINE
DN 86246549
TI Gas exchange during mechanical ventilation and spontaneous breathing. Intermittent mandatory ventilation after open heart surgery.
AU Wolff G; Brunner J X; Gradel E
SO CHEST, (1986 Jul) 90 (1) 11-7.
Journal code: D1C. ISSN: 0012-3692.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals; Cancer Journals
EM 198610
AB Pulmonary gas exchange rates in eight patients after open heart surgery were studied during weaning from the ventilator. We

investigated continuous positive pressure ventilation (CPPV), intermittent mandatory ventilation (IMV) and spontaneous breathing with continuous positive airway pressure (CPAP). During each mode of ventilation we measured: CO₂ production (VCO₂), O₂ consumption (VO₂), cardiac output (CO), PaO₂, Qs/QT and functional residual capacity (FRC). In addition, we **analyzed** in each single **breath**: tidal volume (VT), series dead space volume (Vds), alveolar ventilation, alveolar efficiency for CO₂ elimination (alv eff CO₂) and end-tidal CO₂ concentration (FCO₂et). We compared the results of CPPV, IMV and CPAP and the mandatory **breaths** (MB) with the spontaneous **breaths** (SB) **measured** during IMV. CO was low during CPPV, when the patient still deeply sedated; it was increased in IMV and remained constant in the following CPAP period. VCO₂ and VO₂ did not differ significantly when switching from IMV to CPAP; therefore, work due to breathing seemed not to be reduced by the mandatory breath during IMV. Oxygenation (PaO₂, Qs/QT) did not change significantly when switching from one mode to the other. FRC was constant when changing from CPPV to IMV, did not alter within the IMV-cycle and was reduced significantly when switching from IMV to CPAP. Dead space ventilation was reduced in SB (compared to MB). The latter result is discussed on the basis of two mechanisms: Vds was reduced and alv eff CO₂ was increased. We conclude that compared to CPPV, IMV decreases mean alveolar pressure and reduces dead space ventilation at constant FRC and with constant oxygenation. This may explain why, in the weaning process, IMV makes it possible to start spontaneous breathing very early.

CT Check Tags: Comparative Study; Human; Support, Non-U.S. Gov't
 Adult
 Aged
Breath Tests
 *Cardiac Surgical Procedures
 *Intermittent Positive-Pressure Ventilation
 Middle Age
 Partial Pressure
***Positive-Pressure Respiration**
 *Postoperative Care
 *Pulmonary Gas Exchange
 *Respiration
 Respiratory Function Tests

=> d 147 1-20 all

L47 ANSWER 1 OF 20 MEDLINE
 AN 97103867 MEDLINE
 DN 97103867
 TI [Transjugular intrahepatic portosystemic shunt (TIPS) in the treatment of symptomatic portal hypertension].
 Transjugularni intrahepatalni portosystemovy zkrat (TIPS) pri lecke symptomaticke portalni hypertenze.
 AU Krajina A; Hulek P; Elias P; Michl A; Zizka J; Nozicka J; Vanasek T; Lojik M; Niangova I; Volfova M; Pozler O; Erben J; Papik Z; Bures J
 CS Radiodiagnosticka klinika, FN Hradec Kralove.
 SO CASOPIS LEKARU CESKYCH, (1996 Sep 18) 135 (18) 584-8.
 Journal code: CPY. ISSN: 0008-7335.
 CY Czech Republic
 DT Journal; Article; (JOURNAL ARTICLE)

LA Czech
 EM 199703
 EW 19970304
 AB BACKGROUND: A transjugular intrahepatic portosystemic shunt (TIPS) is the creation of a percutaneous portosystemic anastomosis which is used as an alternative method of surgical portosystemic shunts and endoscopic treatment in the therapy of complications of portal hypertension. The objective of the present work was to summarize experience with TIPS in 100 patients. METHODS AND RESULTS: In 1992-1995 the authors treated 100 patients with symptomatic portal hypertension by TIPS. To create the shunt in 84% patients a spiral Z stent was used, in the remainder a Wallstent. In 86% patients the indication for TIPS was haemorrhage associated with portal hypertension and in 14% refractory ascites. TIPS was implemented in 98% patients. The **pressure** in the portal **vein** was not reduced on average to 58% of the original value. Haemorrhage was not stopped in one of 7 patients. Haemorrhage from varices reappeared in 7% patients indicated on account of repeated haemorrhage and was always associated with the finding of chronic stenosis of the shunt. The mortality in conjunction with the procedure was 4%, the mortality within 30 days after operation was 8%. Uncontrollable encephalopathy developed in 3% of the patients. Primary patency of the shunt created by the spiral Z stent was 85% after 6 months, after 12 months 72% and thus does not differ from primary patency when Wallstents are used, as reported in the literature. CONCLUSIONS: TIPS is an effective method to reduce the pressure in the portal vein in portal hypertension. The main limiting factor of the method is stenosis of the shunt due to hyperplasia of the neointima. Stenoses of the shunt can be effectively dilated by percutaneous balloon angioplasty.

CT Check Tags: Female; Human; Male
 Adolescence
 Adult
 Aged
 Aged, 80 and over
 Child
 English Abstract
 Esophageal and Gastric Varices: ET, etiology
 Gastrointestinal Hemorrhage: ET, etiology
 Hypertension, Portal: CO, complications
 *Hypertension, Portal: SU, surgery
 Middle Age
 *Portasystemic Shunt, Transjugular Intrahepatic
 Portasystemic Shunt, Transjugular Intrahepatic: MO, mortality
 Postoperative Complications

L47 ANSWER 2 OF 20 MEDLINE
 AN 97048532 MEDLINE
 DN 97048532
 TI Prolonged active glottic closure after barbiturate-induced respiratory arrest in lambs.
 AU Praud J P; Kianicka I; Diaz V; Leroux J F; Dalle D
 CS Department of Pediatrics, Faculty of Medicine, University of Sherbrooke, Quebec, Canada.. jp.praud@courrier.USherb.ca
 SO RESPIRATION PHYSIOLOGY, (1996 Jul) 104 (2-3) 221-9.
 Journal code: R88. ISSN: 0034-5687.
 CY Netherlands

DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 199704
 EW 19970404
 AB We recently showed that the glottis is actively closed throughout post-hyperventilation, hypocapnic central apnea in lambs. The present study was designed to test whether the glottis is also closed in non-hypocapnic central apnea. Twenty-seven lambs aged 2 to 30 days were intravenously injected with 325 mg of sodium pentobarbital, so as to obtain breathing arrest. Airflow was recorded via a facial mask and pneumotachograph, along with the electromyographic activity (EMG) of the thyroarytenoid muscle (TA, a glottic adductor). With the onset of apnea, continuous TA EMG appeared in a few seconds and rose rapidly. Brief inspiratory gasps were observed in eight lambs, and TA EMG was abruptly inhibited for the exact duration of the gasps. The continuous TA EMG then disappeared after 115 to 230 sec. We conclude that the glottis is actively closed during fatal non-hypocapnic central apnea in lambs. Our data suggest that active glottic closure occurs with major depression of central inspiratory drive.

CT Check Tags: Animal; Support, Non-U.S. Gov't
 Abdominal Muscles: IR, innervation
 Abdominal Muscles: PH, physiology
 Aging: PH, physiology
 Animals, Newborn
 Apnea: CI, chemically induced
 Apnea: PP, physiopathology
 Electrodes, Implanted
 Electromyography
 *Glottis: PP, physiopathology
 Heart Arrest: CI, chemically induced
 *Heart Arrest: PP, physiopathology
 Laryngeal Muscles: IR, innervation
 Laryngeal Muscles: PH, physiology
 Lung Volume Measurements
 *Pentobarbital
 Positive-Pressure Respiration
 Respiratory Function Tests
 Respiratory Mechanics: DE, drug effects
 Respiratory Mechanics: PH, physiology
 Respiratory Muscles: PH, physiology
 Sheep

RN 76-74-4 (Pentobarbital)

L47 ANSWER 3 OF 20 MEDLINE
 AN 96035496 MEDLINE
 DN 96035496
 TI Effects of nasal positive-pressure hyperventilation on the glottis in normal sleeping subjects.
 AU Jounieaux V; Aubert G; Dury M; Delguste P; Rodenstein D O
 CS Pneumology Unit, Cliniques Universitaires Saint Luc, Universite Catholique de Louvain, Brussels, Belgium..
 SO JOURNAL OF APPLIED PHYSIOLOGY, (1995 Jul) 79 (1) 186-93.
 Journal code: HEG. ISSN: 8750-7587.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)

LA English
 FS Priority Journals
 EM 199601
 AB We have previously observed that, in normal awake subjects passively hyperventilated with intermittent positive-pressure ventilation delivered through nasal access (nIPPV), the glottis could interfere with the ventilation. We report on data obtained in the same subjects during stable sleep. In all cases, the glottis was continuously observed through a fiber-optic bronchoscope, and other indexes were also continuously recorded. Mechanical ventilation was progressively increased up to 30 l/min. We have observed during passive nIPPV in stable sleep that increases in delivered minute ventilation (VED) resulted in progressive narrowing of the glottic aperture, with increases in inspiratory resistance and progressive reductions in the percentage of the delivered tidal volume effectively reaching the lungs. For a given level of VED, comparisons showed that the glottis was significantly narrower during sleep than during wakefulness and that the glottis was significantly narrower during stage 2 than during stages 3/4 non-rapid-eye-movement sleep. Moreover, when CO₂ is added to the inspired air, glottic aperture increased in five of nine trials without changes in sleep stage. We also observed a significant negative correlation between glottic width and the VED, independent of the CO₂ level. We conclude that during nIPPV glottis narrowing results in a decrease in the proportion of the delivered tidal volume reaching the lungs.

CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't
 Adult
 Apnea: PP, physiopathology
 Carbon Dioxide
 *Glottis: PP, physiopathology
 Hypercapnia: PP, physiopathology
 *Hyperventilation: PP, physiopathology
 *Nose
 *Positive-Pressure Respiration
 Reference Values
 Respiration
 *Sleep
 Sleep Stages
 Tidal Volume
 Wakefulness

RN 124-38-9 (Carbon Dioxide)

L47 ANSWER 4 OF 20 MEDLINE
 AN 95118466 MEDLINE
 DN 95118466
 TI [Velopharyngeal closure in adolescents after repair of cleft lip, jaw, palate or isolated cleft palate].
 Velopharyngealer Abschluss bei Jugendlichen nach Verschluss einer Lippen-Kiefer-Gaumen- oder isolierten Gaumenspalte.
 AU Proschel U; Wohlleben U; Mussig D; Eysholdt U
 CS Abteilung f. Phoniatrie und Padaudiologie, Univ.-HNO-Klinik Erlangen.
 SO LARYNGO- RHINO- OTOLOGIE, (1994 Nov) 73 (11) 603-8.
 Journal code: AB7. ISSN: 0935-8943.
 CY GERMANY: Germany, Federal Republic of
 DT Journal; Article; (JOURNAL ARTICLE)

LA German
 FS Priority Journals
 EM 199504
 AB We examined two groups of teenagers (between 13 and 21 years of age) who had been surgically treated as small children for congenital cheilognathouranoschisis or cleft palate. A group of 62 teenagers had been treated by the Dept. of Orthodontics at the University of Erlangen-Nuremberg, the other group of 61 by the Dept. of Orthodontics at the University of Rostock. There were differences between the two departments in sequence and time of the surgical closure as well as in the frequency of velopharyngoplasties. The velopharyngeal closure was examined in all patients by means of a flexible fibre endoscope which was pushed forward endonasally up to the choanae. Simultaneously we judged the audibility of the nasal perflation while pronouncing /k/. A residual gap during articulation of /k/ with clearly audible or alternately clearly and discreetly audible nasal perflation was noted in 8 subjects in Erlangen and 14 subjects in Rostock. In subjects whose velum moved only anterior-posteriorly, closure was likely to be less good than in those with a circular closing mechanism of velum and lateral and/or posterior parts of the pharyngeal musculature. In rare cases we found a good velopharyngeal closure in spite of a large gap between the velum and the posterior pharyngeal wall at rest. This was the case when the velum moved more against the upper than the posterior wall of the nasopharynx. Velopharynxplasty did not reduce nasal airflow in case of insufficient function of the velar muscles. Differences in the mode of velopharyngeal closure might be due to statistically significant regional differences in skull structure. (ABSTRACT TRUNCATED AT 250 WORDS)

CT Check Tags: Female; Human; Male
 Adolescence
 Adult
 Cephalometry
 *Cleft Lip: SU, surgery
 *Cleft Palate: SU, surgery
 English Abstract
 Follow-Up Studies
 Postoperative Complications: ET, etiology
 Postoperative Complications: SU, surgery
 *Velopharyngeal Insufficiency: ET, etiology
 Velopharyngeal Insufficiency: SU, surgery

L47 ANSWER 5 OF 20 MEDLINE
 AN 95002029 MEDLINE
 DN 95002029
 TI Pre-speech in children with cleft lip and palate or cleft palate only: phonetic analysis related to morphologic and functional factors [see comments].
 CM Comment in: Cleft Palate Craniofac J 1995 Jul;32(4):353
 AU Lohmander-Agerskov A; Soderpalm E; Friede H; Persson E C; Lilja J
 CS Department of Logopedics and Phoniatrics, Sahlgrenska Hospital, Goteborg, Sweden.
 SO CLEFT PALATE-CRANIOFACIAL JOURNAL, (1994 Jul) 31 (4) 271-9.
 Journal code: A0R. ISSN: 1055-6656.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English

FS Dental Journals; Priority Journals
 EM 199501
 AB Pre-speech in 35 children with clefts of the lip and palate or palate only were analyzed for place and manner of articulation. Transcriptions were made from tape recorded babbling sequences. Two children without clefts were used as reference. All of the children with clefts were treated according to a regimen of early surgical repair of the **velum** cleft and delayed **closure** of the cleft in the hard palate. The frequency of selected phonetic features was calculated. Correlations between phonetic/perceptual and functional and morphological factors were tested. Supraglottal articulation dominated among all the children indicating a sufficient velopharyngeal mechanism. The results also showed correlations between cleft type and place of articulation. Anteriorly placed sounds (i.e., bilabial, dental, and alveolar sounds) occurred frequently among the children with cleft palate only and in the noncleft children. In children with cleft lip and palate, posteriorly placed articulations predominated. It was postulated that early intervention may have a positive effect on articulatory development.
 CT Check Tags: Comparative Study; Female; Human; Male; Support, Non-U.S. Gov't
 Age Factors
 Articulation Disorders: ET, etiology
 *Articulation Disorders: PP, physiopathology
 Child
 Child Language
 Cleft Lip: CO, complications
 *Cleft Lip: PP, physiopathology
 Cleft Lip: SU, surgery
 Cleft Palate: CO, complications
 *Cleft Palate: PP, physiopathology
 Cleft Palate: SU, surgery
 Infant
 Palatal Obturators
 Palate, Soft: PP, physiopathology
 *Phonetics
 Physical Stimulation
 Reproducibility of Results
 Tape Recording
 Time Factors
 L47 ANSWER 6 OF 20 MEDLINE
 AN 94366164 MEDLINE
 DN 94366164
 TI Physiological assessment of speech and voice production of adults with hearing loss.
 AU Higgins M B; Carney A E; Schulte L
 CS Boys Town National Research Hospital, Omaha, NE.
 NC P60DC00982 (NIDCD)
 SO JOURNAL OF SPEECH AND HEARING RESEARCH, (1994 Jun) 37 (3) 510-21.
 Journal code: K6F. ISSN: 0022-4685.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 199412

AB The purpose of this investigation was to study the impact of hearing loss on phonatory, velopharyngeal, and articulatory functioning using a comprehensive physiological approach. Electroglossograph (EGG), nasal/oral air flow, and intraoral air pressure signals were recorded simultaneously from adults with impaired and normal hearing as they produced syllables and words of varying physiological difficulty. The individuals with moderate-to-profound hearing loss had good to excellent oral communication skills. Intraoral pressure, nasal air flow, durations of lip, velum, and vocal fold articulations, estimated subglottal pressure, mean phonatory air flow, fundamental frequency, and EGG abduction quotient were compared between the two subject groups. Data from the subjects with hearing loss also were compared across aided and unaided conditions to investigate the influence of auditory feedback on speech motor control. The speakers with hearing loss had significantly higher intraoral pressures, subglottal pressures, laryngeal resistances, and fundamental frequencies than those with normal hearing. There was notable between-subject variability. All of the individuals with profound hearing loss had at least one speech/voice physiology measure that fell outside of the normal range, and most of the subjects demonstrated unique clusters of abnormal behaviors. Abnormal behaviors were more evident in the phonatory than articulatory or velopharyngeal systems and were generally consistent with vocal fold hyperconstriction. There was evidence from individual data that vocal fold posturing influenced articulatory timing. The results did not support the idea that the speech production skills of adults with moderate-to-profound hearing loss who are good oral communicators deteriorate when there are increased motoric demands on the velopharyngeal and phonatory mechanism. Although no significant differences were found between the aided and unaided conditions, 7 of 10 subjects showed the same direction of change for subglottal pressure, intraoral pressure, nasal air flow, and the duration of lip and vocal fold articulations. We conclude that physiological assessments provide important information about the speech/voice production abilities of individuals with moderate-to-profound hearing loss and are a valuable addition to standard assessment batteries.

CT Check Tags: Comparative Study; Female; Human; Male; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.

Adult

Audiometry, Pure-Tone

Hearing Aids

*Hearing Disorders: CO, complications

Hearing Disorders: DI, diagnosis

Hearing Disorders: RH, rehabilitation

Middle Age

Observer Variation

Phonetics

Pulmonary Ventilation

Sex Factors

*Speech Disorders: CO, complications

*Speech Disorders: DI, diagnosis

Speech Disorders: PP, physiopathology

Speech Intelligibility

Speech Production Measurement

Vocal Cords: PP, physiopathology

*Voice Disorders: CO, complications

Choon Koh STIC/LIBRARY 308-4133

Voice Disorders: PP, physiopathology

L47 ANSWER 7 OF 20 MEDLINE
 AN 94341538 MEDLINE
 DN 94341538
 TI [Standardization of the data reported in nasopharyngeal and
 fluoroscopy study of the velopharyngeal sphincter].
 Estandarizacion de los datos reportados en estudios de
 nasofaringoscopia y fluoroscopia del esfinter velofaringeo.
 AU Hernandez Lopez X; Marquez Avila C; Romero Fernandez F; Tarasco
 Michel M; Ysunza Rivera A; Tarasco Camino S; Meca y Sen M; Perez
 Contreras R B; Puente Gonzalez A
 CS Hospital General Manuel Gea Gonzalez, Tlalpan..
 SO GACETA MEDICA DE MEXICO, (1993 Jan-Feb) 129 (1) 27-33. Ref: 13
 Journal code: FFF. ISSN: 0016-3813.
 CY Mexico
 DT Journal; Article; (JOURNAL ARTICLE)
 General Review; (REVIEW)
 (REVIEW, TUTORIAL)
 LA Spanish
 EM 199411
 AB There is a certain global awareness to unify the reports of the
 findings with the Fiber Optic Endoscopy and The Fluoroscopy in the
 Velopharyngeal Sphincter. The evaluation must be made by
 specialists. Nasopharyngoscopy: The required equipment is the
 nasopharyngoscope with a source of light. A videotape is desirable
 although not necessary. The report must be descriptive and should
 arrive at precise conclusions. The following are described: 1) nasal
 phosae, 2) meatus, 3) the exit orifice of the Eustachian Tube, 4)
 oropharynx, 5) velopharyngeal sphincter (posterior and lateral
 pharyngeal walls, and the palatal velum), 6) the
 closing pattern (form, separate structure, at rest, and in
 phonation), and 7) larynx. Fluoroscopy: It is useful to evaluate the
 lateral pharyngeal walls as well as the level at which the
 velopharyngela sphincter closes. The fluoroscopy is not required in
 every combination instance. Nevertheless, when it is used, it must
 be in complement with the nasopharyngoscopy. The videotape is not
 indispensable. Frontal, lateral, and basal incidences must always be
 performed.
 CT Check Tags: Human
 Endoscopy
 English Abstract
 Fluoroscopy
 *Palate, Soft: PH, physiology
 *Pharynx: PH, physiology
 Reference Values

L47 ANSWER 8 OF 20 MEDLINE
 AN 94170655 MEDLINE
 DN 94170655
 TI Subglottic positive end-expiratory pressure in extubated patients
 recovering from acute lung injury.
 AU Putensen C; Lingnau W; Hormann C; Putensen-Himmer G; Baum M
 CS Department of Anaesthesia and Intensive Care Medicine, University of
 Innsbruck, Austria..
 SO CRITICAL CARE MEDICINE, (1994 Jan) 22 (1) 67-73.
 Journal code: DTF. ISSN: 0090-3493.

CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Abridged Index Medicus Journals; Priority Journals
 EM 199406
 AB OBJECTIVE: To examine the glottic function in extubated patients recovering from acute lung injury by simultaneous measurement of airway opening and subglottic airway pressures while patients are breathing at ambient pressure and receiving continuous positive airway pressure by a face mask. DESIGN: Descriptive, prospective study. SETTING: Intensive care unit at a university hospital. PATIENTS: Ten patients who required continuous positive airway pressure of at least 7 cm H₂O in order to restore gas exchange after mechanical ventilation for acute lung injury. INTERVENTIONS: Spontaneous breathing at ambient airway pressure and with continuous positive airway pressures of 5 and 10 cm H₂O via face mask. MEASUREMENTS AND MAIN RESULTS: Intratracheal pressure, airway opening pressure, and airflow at the airway opening were measured. Breathing at ambient pressure resulted in significantly higher end-expiratory intratracheal pressure than end-expiratory airway opening pressure ($p < .01$). No significant differences between end-expiratory intratracheal pressure and end-expiratory airway opening pressure were observed during breathing with continuous positive airway pressures of 5 and 10 cm H₂O. A significant end-expiratory airflow at the airway opening ($p < .01$), observed during ambient pressure breathing, was not detectable while the patient received mask continuous positive airway pressure. The partial pressure of oxygen in the arterial blood (Pao₂) increased significantly while patients breathed with 10 cm H₂O, but not while patients breathed 5 cm H₂O continuous positive airway pressure compared with breathing at ambient pressure ($p < .05$). CONCLUSIONS: Our data imply that patients recovering from acute lung injury create an intratracheal positive end-expiratory pressure by braking the expiratory airflow, probably by glottic narrowing. Despite compensatory glottic narrowing, extubated patients with reduced lung function may benefit from higher levels of continuous positive airway pressure.
 CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't
 Adolescence
 Adult
 Glottis: PH, physiology
 *Lung: IN, injuries
 *Positive-Pressure Respiration
 Pulmonary Gas Exchange
 *Respiration
 L47 ANSWER 9 OF 20 MEDLINE
 AN 94051250 MEDLINE
 DN 94051250
 TI The role of gentle ventilation in prevention of subglottic stenosis in the newborn.
 AU Gaynor E B; Danoff S J
 CS Department of Surgery, Norwalk Hospital, CT..
 SO OTOLARYNGOLOGY - HEAD AND NECK SURGERY, (1993 Oct) 109 (4) 701-6.
 Journal code: ON8. ISSN: 0194-5998.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)

LA English
 FS Priority Journals
 EM 199402
 AB Prolonged endotracheal intubation has become the standard of care in most neonatal units for maintenance of mechanical ventilation in the presence of respiratory distress. Unfortunately this approach has become associated with significant complications, including acquired subglottic stenosis. We have successfully used nasal continuous positive airway pressure to avoid or decrease the incidence and duration of endotracheal intubation. With use of this technique we have been able to significantly reduce sequelae (i.e., bronchopulmonary dysplasia, chronic lung disease, intraventricular hemorrhage) and have not encountered subglottic stenosis in more than 200 cases. The use of this technique may be of significant value in preventing or reducing the incidence of acquired subglottic stenosis.

CT Check Tags: Human

Glottis

Incidence

Infant, Low Birth Weight

Infant, Newborn

Infant, Premature

Infant, Premature, Diseases: EP, epidemiology

Infant, Premature, Diseases: ET, etiology

Infant, Premature, Diseases: PC, prevention & control

Laryngostenosis: EP, epidemiology

Laryngostenosis: ET, etiology

*Laryngostenosis: PC, prevention & control

Pneumothorax: EP, epidemiology

Pneumothorax: ET, etiology

Positive-Pressure Respiration: AE, adverse effects

Positive-Pressure Respiration: MT, methods

*Respiration, Artificial

Respiration, Artificial: AE, adverse effects

Respiration, Artificial: MT, methods

Respiratory Distress Syndrome: CO, complications

Respiratory Distress Syndrome: TH, therapy

L47 ANSWER 10 OF 20 MEDLINE

AN 93073484 MEDLINE

DN 93073484

TI Continuous positive airway pressure as a promoter of laryngospasm during halothane anesthesia.

AU Silva D A; Sanders I

CS Department of Anesthesiology, Mount Sinai School of Medicine, City University of New York, New York..

SO ANNALS OF OTOTOLOGY, RHINOLOGY AND LARYNGOLOGY, (1992 Nov) 101 (11) 893-6.

Journal code: 5Q2. ISSN: 0003-4894.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Abridged Index Medicus Journals; Priority Journals

EM 199302

AB Twenty mongrel dogs were anesthetized with halothane 2.0%, 1.25%, 0.94%, and 0.63% in oxygen. Thyroarytenoid (TA) and posterior cricoarytenoid (PCA) electromyography (EMG) tracings were recorded

with the animal at rest, following mechanical irritation of the glottis, and during 20 mm Hg continuous positive airway pressure (CPAP) following either airway occlusion or hyperventilation. Adductor laryngospasm was defined as continuous tonic TA EMG activity, silent PCA EMG, and vocal cord adduction. Abductor laryngospasm was defined as continuous tonic PCA EMG activity, silent TA EMG, and vocal cord abduction. Combined laryngospasm was defined as continuous tonic PCA and TA EMG activity, with variable vocal cord position. The incidence of adductor laryngospasm following mechanical irritation was 30% to 50%. The combined incidence of laryngospasm during application of CPAP following airway occlusion or hyperventilation was 25% to 50%, and differed from the incidence of irritation-induced adductor laryngospasm by 5% or less at the same anesthetic level. Continuous positive airway pressure appears to be a stimulant of laryngeal muscle spasm comparable to mechanical irritation of the glottis.

CT Check Tags: Animal; Comparative Study
 Airway Obstruction: PP, physiopathology
 *Anesthesia, Inhalation
 Biomechanics
 Disease Models, Animal
 Dogs
Glottis
 *Halothane
 Hyperventilation: PP, physiopathology
 *Laryngismus: ET, etiology
 Physical Stimulation
 *Positive-Pressure Respiration: AE, adverse effects
 RN 151-67-7 (Halothane)

L47 ANSWER 11 OF 20 MEDLINE
 AN 92036596 MEDLINE
 DN 92036596
 TI Use of the electroglottograph for measurement of temporal aspects of the swallow: preliminary observations.
 AU Perlman A L; Grayhack J P
 CS Audiology/Speech Pathology Service, VA Medical Center, Iowa City, Iowa 52246..
 SO DYSPHAGIA, (1991) 6 (2) 88-93.
 Journal code: DYY. ISSN: 0179-051X.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Dental Journals
 EM 199202
 AB The electroglottograph (EGG) is a non-invasive, electrical impedance device that was developed for observing vocal fold contract during phonation. After a thorough study of the frequency response characteristics of the EGG, we found that the EGG output can be used to identify maximum laryngeal displacement and the duration of laryngeal movement during swallowing. With a small intranasal **pressure** transducer placed beneath the **velum** and the EGG electrodes placed externally on the thyroid cartilage, additional information on the temporal aspects of the swallow can be measured. The EGG has direct clinical application when teaching such techniques as the safe swallow and Mendelsohn maneuver and it is useful as a research technique when using repeated measures designed

to study the swallow reflex.

CT Check Tags: Human; Support, U.S. Gov't, Non-P.H.S.
 *Deglutition: PH, physiology
 Deglutition Disorders: DI, diagnosis
 *Electrophysiology: MT, methods
 *Larynx: PH, physiology
 Oropharynx: PH, physiology
 Pharynx: PH, physiology
 Photofluorography
 Pressure

L47 ANSWER 12 OF 20 MEDLINE
 AN 90336353 MEDLINE
 DN 90336353
 TI Does continuous positive airway pressure compensate for loss of
 glottic function during tracheal intubation?.

AU Smith R A; Johnson M; Venus B
 CS Department of Anesthesiology, University of South Florida College of
 Medicine, Tampa 33612..
 SO CRITICAL CARE MEDICINE, (1990 Aug) 18 (8) 848-50.
 Journal code: DTF. ISSN: 0090-3493.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Abridged Index Medicus Journals; Priority Journals
 EM 199011
 AB Adult patients with acute lung injury (ALI) exhibit increased PaO₂
 when receiving continuous positive airway pressure (CPAP). Some have
 increased PaO₂ after extubation. To determine the role a competent
 glottis played in improving gas exchange, we anesthetized seven
 rabbits and inserted central venous and carotid artery catheters.
 After recovery from anesthesia, ALI was induced with oleic acid
 (0.08 ml/kg). Twenty-four hours later, the animals were sedated and
 placed in a sling. The pHa and blood gas tensions were measured. The
 animals were placed supine and were given inhalation anesthesia to
 facilitate tracheal intubation. A polyethylene catheter was placed
 slightly distal to the tracheal tube outlet to measure tracheal
 pressure (PT). Intubated rabbits were repositioned in the sling and
 were given either zero end-expiratory pressure (ZEEP) or 5 cm H₂O
 CPAP, alternately. After the animals had breathed room air for 60
 min, pHa and blood gas tensions were again measured, and PT was
 recorded. Animals were extubated, but the PT catheter was left in
 place. Data were collected again 60 min later, the catheter was
 removed, and the animals were returned to their cages. Forty-eight
 hours after onset of ALI, the protocol was repeated. (ABSTRACT
 TRUNCATED AT 250 WORDS)

CT Check Tags: Animal; Human; Support, Non-U.S. Gov't
 Disease Models, Animal
 *Glottis
 Glottis: PH, physiology
 *Intubation, Intratracheal
 Intubation, Intratracheal: AE, adverse effects
 *Positive-Pressure Respiration
 Positive-Pressure Respiration: MT, methods
 *Pulmonary Gas Exchange
 Rabbits
 Respiratory Distress Syndrome, Adult: TH, therapy
 Choon Koh STIC/LIBRARY 308-4133

L47 ANSWER 13 OF 20 MEDLINE
 AN 90186532 MEDLINE
 DN 90186532
 TI Effects of nasal CPAP on supraglottic and total pulmonary resistance in preterm infants.
 AU Miller M J; DiFiore J M; Strohl K P; Martin R J
 CS Department of Pediatrics, Rainbow Babies and Childrens Hospital, Case Western Reserve University, Cleveland, Ohio 44106..
 NC HL-41814 (NHLBI)
 HC-25830 (NHLBI)
 HL-02011 (NHLBI)
 +
 SO JOURNAL OF APPLIED PHYSIOLOGY, (1990 Jan) 68 (1) 141-6.
 Journal code: HEG. ISSN: 8750-7587.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 199006
 AB The effects of continuous positive airway pressure (CPAP) on supraglottic and total pulmonary resistance were determined in 10 healthy premature infants (postconceptional age 34 +/- 2 wk, weight at study 1,628 +/- 250 g). Nasal airflow was measured with a mask pneumotachograph, and pressures in the esophagus and oropharynx were measured with a 5-Fr Millar or fluid-filled catheter. Nasal CPAP between 0 and 5 cmH2O correlated well with oropharyngeal pressure (r = 0.94). Total supraglottic resistance, total pulmonary resistance, and supraglottic resistance in inspiration and expiration were measured on increasing CPAP. Total supraglottic resistance decreased from 46 +/- 29 to 17 +/- 16 cmH2O.1-1.s (P less than 0.005) between 0 and 5 cmH2O CPAP, and a delay in return of resistance to control values was seen as CPAP was reciprocally decreased to 0. CPAP produced a decrease in supraglottic resistance in both inspiration and expiration, from 41 +/- 26 to 14 +/- 9 and from 33 +/- 17 to 10 +/- 6 cmH2O.1-1.s, respectively (P less than 0.01). Total pulmonary resistance also decreased from 161 +/- 40 to 95 +/- 24 cmH2O.1-1.s (P less than 0.01) between 0 and 5 cmH2O CPAP. The decrease in total supraglottic resistance in these infants accounted for 60% of the change in total pulmonary resistance, which occurred on CPAP of 5 cmH2O. We speculate that CPAP may decrease supraglottic resistance directly through mechanical splinting of the airway. This effect of CPAP may be the primary mechanism by which this form of therapy reduces apnea with an obstructive component in premature infants.
 CT Check Tags: Human; Support, U.S. Gov't, P.H.S.
 *Airway Resistance: PH, physiology
 Esophagus: PH, physiology
 *Glottis: PH, physiology
 Infant
 Infant, Newborn
 *Infant, Premature: PH, physiology
 *Lung: PH, physiology
 Oropharynx: PH, physiology
 *Positive-Pressure Respiration
 Pressure
 L47 ANSWER 14 OF 20 MEDLINE
 Choon Koh STIC/LIBRARY 308-4133

AN 86303297 MEDLINE
 DN 86303297
 TI Changes in velopharyngeal valving with age.
 AU Siegel-Sadewitz V L; Shprintzen R J
 SO INTERNATIONAL JOURNAL OF PEDIATRIC OTORHINOLARYNGOLOGY, (1986 Apr)
 11 (2) 171-82.
 Journal code: GS2. ISSN: 0165-5876.
 CY Netherlands
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 198612
 AB Variability of velopharyngeal valving between subjects has been a well established fact since the advent of new techniques for the direct viewing of the velopharyngeal sphincter during speech. Multi-view videofluoroscopy and nasopharyngoscopy have shown that there is variable contribution to velopharyngeal closure from the velum, the lateral pharyngeal walls, and posterior pharyngeal wall from person to person. However, to date, there has been no evidence to show if velopharyngeal closure remains unchanged within individuals throughout life. The purpose of this investigation was to observe velopharyngeal closure in normal subjects and subjects with cleft palate from prepubertal to postpubertal life (i.e. pre-adenoid involution to post-adenoid involution). Changes in velopharyngeal closure patterns were observed in 60% of the normals studied and 30% of the cleft subjects.
 CT Check Tags: Human
 Adenoids: PP, physiopathology
 Adolescence
 *Aging
 Child
 Child, Preschool
 Cleft Palate: PP, physiopathology
 Endoscopy
 Fluoroscopy
 Longitudinal Studies
 Movement
 *Palate, Soft: PH, physiology
 Palate, Soft: PP, physiopathology
 *Pharynx: PH, physiology
 Pharynx: PP, physiopathology
 Puberty
 Velopharyngeal Insufficiency: DI, diagnosis
 L47 ANSWER 15 OF 20 MEDLINE
 AN 85196951 MEDLINE
 DN 85196951
 TI Emergency management of the infant with an obstructed airway at birth.
 AU Sacks L M; Bohannon D S; Wynn R A
 SO ANESTHESIOLOGY, (1985 May) 62 (5) 659-61.
 Journal code: 4SG. ISSN: 0003-3022.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Abridged Index Medicus Journals; Priority Journals
 Choon Koh STIC/LIBRARY 308-4133

EM 198508
 CT Check Tags: Case Report; Female; Human
 *Airway Obstruction: CN, congenital
 Airway Obstruction: TH, therapy
Glottis
 Infant, Newborn
 *Infant, Premature, Diseases: TH, therapy
Positive-Pressure Respiration
 Respiration, Artificial
 *Tracheal Stenosis: CN, congenital
 Tracheal Stenosis: TH, therapy
 Tracheotomy

L47 ANSWER 16 OF 20 MEDLINE

AN 85157271 MEDLINE

DN 85157271

TI Effect of expiratory loading on glottic dimensions in humans.

AU Brancatisano T P; Dodd D S; Collett P W; Engel L A

SO JOURNAL OF APPLIED PHYSIOLOGY, (1985 Feb) 58 (2) 605-11.

Journal code: HEG: ISSN: 8750-7587.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 198507

AB We examined the effects of external mechanical loading on glottic dimensions in 13 normal subjects. When flow-resistive loads of 7, 27, and 48 cmH₂O X 1-1 X s, measured at 0.2 l/s, were applied during expiration, glottic width at the mid-tidal volume point in expiration (dge) was 2.3 +/- 12, 37.9 +/- 7.5, and 38.3 +/- 8.9% (means +/- SE) less than the control dge, respectively. Simultaneously, mouth pressure (Pm) increased by 2.5 +/- 4, 3.0 +/- 0.4, and 4.6 +/- 0.6 cmH₂O, respectively. When subjects were switched from a resistance to a positive end-expiratory pressure at comparable values of Pm, both dge and expiratory flow returned to control values, whereas the level of hyperinflation remained constant. Glottic width during inspiration (unloaded) did not change on any of the resistive loads. There was a slight inverse relationship between the ratio of expiratory to inspiratory glottic width and the ratio of expiratory to inspiratory duration. Our results show noncompensatory glottic narrowing when subjects breathe against an expiratory resistance and suggest that the glottic dimensions are influenced by the time course of lung emptying during expiration. We speculate that the glottic constriction is related to the increased activity of expiratory medullary neurons during loaded expiration and, by increasing the internal impedance of the respiratory system, may have a stabilizing function.

CT Check Tags: Human; Support, Non-U.S. Gov't

Adult

Airway Resistance

Glottis: AH, anatomy & histology

***Glottis: PH, physiology**

Lung Volume Measurements

Positive-Pressure Respiration

Pulmonary Ventilation

*Respiration

Tidal Volume

Time Factors

L47 ANSWER 17 OF 20 MEDLINE
 AN 84187495 MEDLINE
 DN 84187495
 TI [Preglottic jet-ventilation in laser microsurgery. Apropos of 100 cases].
 La jet-ventilation pre-glottique dans la mcirochirurgie au laser. A propos de 100 cas.
 AU Alcalay A; Abastado M; Dutron C; Rosencher N; Reyt E; Junien-Lavillauroy C
 SO JOURNAL FRANCAIS D OTO-RHINO-LARYNGOLOGIE, AUDIOPHONOLOGIE, CHIRURGIE MAXILLO-FACIALE, (1984 Apr) 33 (4) 196-200.
 Journal code: I7J. ISSN: 0398-9771.
 CY France
 DT Journal; Article; (JOURNAL ARTICLE)
 LA French
 EM 198408
 CT Check Tags: Female; Human; Male
 Adolescence
 Adult
 Aged
 Anesthesia, General: MT, methods
 Child
 Child, Preschool
 *Glottis
 Infant
 *Intermittent Positive-Pressure Ventilation: MT, methods
 *Laryngeal Neoplasms: SU, surgery
 Laryngoscopy: MT, methods
 *Lasers: TU, therapeutic use
 *Microsurgery: MT, methods
 Middle Age
 *Positive-Pressure Respiration: MT, methods

L47 ANSWER 18 OF 20 MEDLINE
 AN 81073438 MEDLINE
 DN 81073438
 TI Adenoid involution and developing hypernasality in cleft palate.
 AU Mason R M; Warren D W
 NC DE 04267 (NIDR)
 DE 02668 (NIDR)
 44P 20831
 SO JOURNAL OF SPEECH AND HEARING DISORDERS, (1980 Nov) 45 (4) 469-80.
 Journal code: K5Z. ISSN: 0022-4677.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 198104
 AB Information about the adenoid mass is reviewed, and the phenomenon of gradual development of hypernasality as a result of adenoidal involution is described in two patients selected from a sample of 122 with repaired cleft palate. Three types of radiographically determined **closure** patterns of the **velum** against the adenoid pad are presented. Our clinical experience suggests that the results of aerodynamic studies, completed on a longitudinal

basis, may identify patients who are at risk in maintaining normal resonance balance one year or more in advance of perceptual or radiographic evidence of velopharyngeal incompetency.

CT Check Tags: Female; Human; Male; Support, U.S. Gov't, P.H.S.

Adenoidectomy

Adenoids: AH, anatomy & histology

Adenoids: GD, growth & development

*Adenoids: PA, pathology

Adenoids: PP, physiopathology

Child

*Cleft Palate: SU, surgery

Palate, Soft: PP, physiopathology

*Postoperative Complications

Velopharyngeal Insufficiency: ET, etiology

*Voice Disorders: ET, etiology

L47 ANSWER 19 OF 20 MEDLINE

AN 79084566 MEDLINE

DN 79084566

TI The dynamics of Passavant's ridge in subjects with and without velopharyngeal insufficiency--a multi-view videofluoroscopic study.

AU Glaser E R; Skolnick M L; McWilliams B J; Shprintzen R J

SO CLEFT PALATE JOURNAL, (1979 Jan) 16 (1) 24-33.

Journal code: DB2. ISSN: 0009-8701.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals; Dental Journals

EM 197905

AB Passavant's ridge was studied in 43 patients via multiview videofluoroscopy incorporating the simultaneous recording of speech. Ratings of the videotapes were made at full speed, in slowmotion, and by stop-framing. The following results were found: (1) Just as there are variable patterns of velopharyngeal closure, there were also variations in the way in which Passavant's ridge is positioned relative to the velum, and in the ridge's subsequent role in velopharyngeal narrowing or closure. (2) The ridge was the primary pharyngeal structure at the level of the **velum** that **closed** or locally narrowed the velopharyngeal portal in 37% of patients. (3) Passavant's ridge usually appeared as a structure encompassing both the lateral and posterior pharyngeal walls, and its presence was usually associated with active lateral pharyngeal wall motion. (4) Passavant's ridge was more prominent when the head was in the hyper-extended rather than the neutral position. (5) Passavant's ridge moved in a highly consistent manner, synchronous with velar movement.

CT Check Tags: Human; Support, U.S. Gov't, P.H.S.

Adolescence

Adult

Child

Child, Preschool

*Cineradiography

Head: AH, anatomy & histology

Palate: AH, anatomy & histology

Palate: PH, physiology

Pharynx: AH, anatomy & histology

*Pharynx: PH, physiology

*Speech
Speech Disorders: PP, physiopathology
*Velopharyngeal Insufficiency: PP, physiopathology

L47 ANSWER 20 OF 20 MEDLINE
AN 69253669 MEDLINE
DN 69253669
TI Experiences with early closure of velum and
later closure of hard palate.
AU Fara M; Brousilova M
SO PLASTIC AND RECONSTRUCTIVE SURGERY, (1969 Aug) 44 (2) 134-41.
Journal code: P9S. ISSN: 0032-1052.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 196911
CT Check Tags: Female; Human; Male
Age Factors
Child
Child, Preschool
*Cleft Palate: SU, surgery
Methods
Palate
Speech Disorders: PC, prevention & control

=> d 148 1-19 all

L48 ANSWER 1 OF 19 MEDLINE
AN 1998164891 MEDLINE
DN 98164891
TI Comparison of exhaled nitric oxide and cardiorespiratory indices
between nasal and oral breathing during submaximal exercise in
humans.
AU Yasuda Y; Itoh T; Miyamura M; Nishino H
CS Research Center of Physical Fitness, Sports and Health, Toyohashi
University of Technology, Japan.
SO JAPANESE JOURNAL OF PHYSIOLOGY, (1997 Oct) 47 (5) 465-70.
Journal code: KON. ISSN: 0021-521X.
CY Japan
DT (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
(RANDOMIZED CONTROLLED TRIAL)
LA English
FS Priority Journals
EM 199805
EW 19980503
AB In order to examine the origin and role of nitric oxide (NO) in
exhaled air during exercise, exhaled NO outputs of 8 healthy human
subjects were compared using different breathing methods, through
the mouth or nose, at two intensities of bicycle exercise. The
concentration of NO in the exhaled air and ventilatory gas exchange
variables were measured by a chemiluminescence analyzer and a mixing
chamber method, respectively. The concentration and total output of
NO in the expired air was significantly higher under nasal breathing
than under oral breathing for both exercise intensities, whereas no
significant difference was observed in cardiorespiratory variables

between them. NO output increased significantly when exercise intensity was increased from unloaded (0 W) to 60 W under nasal breathing, but not under oral breathing. A negative correlation among subjects was found between NO output and minute ventilation in both breathing methods only for unloaded exercise. Data indicate that nasal airways have a large contribution, at least 50% of total NO output in the exhaled air during nasal breathing, but this nasal NO may have no further modulation on respiratory function during submaximal exercise by healthy humans.

CT Check Tags: Comparative Study; Human; Male

Adolescence

Adult

Breath Tests

Carbon Dioxide: ME, metabolism

*Exercise: PH, physiology

Heart Rate: PH, physiology

Hemodynamics: PH, physiology

Least-Squares Analysis

Middle Age

Mouth Mucosa: ME, metabolism

Nasal Cavity: PH, physiology

*Nitric Oxide: ME, metabolism

Oxygen Consumption: PH, physiology

Reference Values

*Respiration: PH, physiology

Respiratory Transport

RN 10102-43-9 (Nitric Oxide); 124-38-9 (Carbon Dioxide)

L48 ANSWER 2 OF 19 MEDLINE

AN 1998157560 MEDLINE

DN 98157560

TI Ventilation heterogeneity is increased in hypocapnic dogs but not pigs.

AU Domino K B; Emery M J; Swenson E R; Hlastala M P

CS Department of Anesthesiology, University of Washington, Seattle
98195-6540, USA.. kdomino@u.washington.edu

NC HL-02507 (NHLBI)

HL-12174 (NHLBI)

SO RESPIRATION PHYSIOLOGY, (1998 Jan) 111 (1) 89-100.

Journal code: R88. ISSN: 0034-5687.

CY Netherlands

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 199805

EW 19980502

AB Hypocapnia increases ventilation/perfusion (VA/Q) heterogeneity in dogs, possibly by adversely affecting distribution of ventilation through its effects on collateral ventilation. Because pigs lack collateral ventilation, we compared the effects of hypocapnia on ventilation heterogeneity in pentobarbital-anesthetized, mechanically-ventilated dogs and pigs. Simultaneous multiple breath washouts of helium and nitrogen were used to assess the uniformity of the ventilation distribution by the phase III (SnIII) method. Ventilation heterogeneity was partitioned into two components, e.g. convective-dependent inhomogeneity (cdi) and diffusive-convective-dependent inhomogeneity (dc di). Pulmonary gas exchange was also

measured in pigs by the multiple inert gas elimination technique. Ventilation heterogeneity was increased ($P < 0.01$) in hypocapnic dogs. Inspiration of CO₂ decreased ventilation heterogeneity by decreasing dcdi ($P < 0.01$). In contrast, ventilation heterogeneity was not increased in hypocapnic pigs. However, hypocapnia increased VA/Q heterogeneity by 18% ($P < 0.05$) in pigs. We conclude that hypocapnia increases ventilation heterogeneity in dogs but not in pigs, most likely related to an interspecies difference in collateral ventilation.

CT Check Tags: Animal; Comparative Study; Female; Male; Support, U.S. Gov't, P.H.S.

Analysis of Variance

Breath Tests

*Carbon Dioxide: PH, physiology

Dogs

Helium: AN, analysis

Hemodynamics

*Hypocapnia: PP, physiopathology

Nitrogen: AN, analysis

Positive-Pressure Respiration

Respiratory Transport

*Species Specificity

Swine

*Ventilation-Perfusion Ratio: PH, physiology

RN 124-38-9 (Carbon Dioxide); 7440-59-7 (Helium); 7727-37-9 (Nitrogen)

L48 ANSWER 3 OF 19 MEDLINE

AN 97371496 MEDLINE

DN 97371496

TI Nasal contribution to exhaled nitric oxide during exhalation against resistance or during breath holding.

AU Kharitonov S A; Barnes P J

CS Department of Thoracic Medicine, National Heart and Lung Institute, Imperial School of Medicine, London, UK.

SO THORAX, (1997 Jun) 52 (6) 540-4.

Journal code: VQW. ISSN: 0040-6376.

CY ENGLAND: United Kingdom

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals; Cancer Journals

EM 199710

EW 19971001

AB BACKGROUND: The concentration of nitric oxide (NO) is increased in the exhaled air of patients with inflammation of the airways, suggesting that this may be a useful measurement to monitor inflammation in diseases such as asthma. However, there have been concerns that exhaled NO may be contaminated by the high concentrations of NO derived from the upper airways, and that this may account for differences in reported values of exhaled NO using different techniques. A study was performed, with argon as a tracer, to determine the extent of nasal contamination of exhaled NO using different expiratory manoeuvres. METHODS: Exhaled and nasal NO were measured by a chemiluminescence analyser. Argon (4.8%) was delivered continuously to the nose. Gas was sampled from the posterior oropharynx and argon and carbon dioxide were measured by mass spectrometry at the same time as NO. RESULTS: During a single expiration against a low resistance and during breath holding there

was no evidence for nasal contamination, whereas during exhalation without resistance argon concentration in the oropharynx was increased from 0.91% (95% CI 0.84% to 0.98%) in ambient air to 1.28% (0.9% to 2.24%, $p < 0.0001$) during a single breath or 2.37% (2.29% to 2.51%, $p < 0.0001$) during tidal breathing. CONCLUSIONS: Collection of exhaled NO in a reservoir during tidal breathing is likely to be contaminated by NO derived from the nose and this may underestimate any increases in NO derived from the lower respiratory tract in inflammatory diseases. However, with slow expiration against a resistance and created back pressure to close the **soft palate**, there is no contamination of exhaled air which then reflects concentrations of NO in the lower airways.

CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't

Adult

Airway Resistance

Argon

Biological Markers: AN, analysis

***Breath Tests: MT, methods**

Chemiluminescence

Nasal Cavity

***Nitric Oxide: AN, analysis**

Oropharynx

Spectrum Analysis, Mass

RN 10102-43-9 (Nitric Oxide); 7440-37-1 (Argon)

CN 0 (Biological Markers)

L48 ANSWER 4 OF 19 MEDLINE

AN 97258553 MEDLINE

DN 97258553

TI Determinants of nitric oxide in exhaled gas in the isolated rabbit lung.

AU Carlin R E; Ferrario L; Boyd J T; Camporesi E M; McGraw D J; Hakim T S

CS State University of New York Health Science Center at Syracuse, Department of Surgery, 13210, USA.

SO AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE, (1997 Mar) 155 (3) 922-7.

Journal code: BZS. ISSN: 1073-449X.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Abridged Index Medicus Journals; Priority Journals

EM 199706

EW 19970604

AB Nitric oxide concentrations in the exhaled gas (NOe) increases during various inflammatory conditions in humans and animals. Little is known about the sources and factors that influence NOe. NOe at end expiration was measured by chemiluminescence in an isolated, blood-perfused rabbit lung. The average end-expiratory concentration over 10 breaths was used. The effect of positive end-expiratory pressure (PEEP), flow rate, pH, hypoxia, venous pressure, and flow pulsatility on NOe were determined. At constant blood flow, increasing PEEP from 1 to 5 cm H2O elicited a reproducible increase in NOe from 49 +/- 7 to 53 +/- 8 parts per billion (ppb) ($p < 0.05$). When blood pH was increased from 7.40 to 7.74 by breathing low CO2 gas, NOe rose from 45 +/- 7 to 55 +/- 7 ppb ($p < 0.001$). Hypoxia caused a dose-dependent decrease in NOe from 37 +/- 3 during

baseline to 23 ± 2 during ventilation with 0% O₂ ($p < 0.01$). Venous pressure elevation from 0 to 5 and 10 mm Hg decreased NO_e from 32 ± 5 , to 26 ± 5 and 24 ± 5 ppb, respectively ($p < 0.05$). Switching from steady to pulsatile flow (same mean flow) resulted in a small, albeit significant reduction in NO_e; 30 ± 4 to 28 ± 4 ppb ($p < 0.05$). Changes in flow rate between 200 and 20 ml/min were associated with small changes in NO_e; however, when flow was stopped, NO_e rose substantially to 56 ± 6 ppb ($p < 0.05$). The changes in NO_e were rapid (1 to 2 min) and reversible. The results suggest that NO_e is influenced by ventilatory and hemodynamic variables, pH, and hypoxia. We suggest that caution must be taken when interpreting changes in exhaled NO in humans or experimental animals. Changes in total and regional blood flow, capillary blood volume, ventilation, hypoxia, and pH should not be overlooked.

CT Check Tags: Animal; Support, Non-U.S. Gov't

Anoxia: PP, physiopathology

Blood Pressure: PH, physiology

Breath Tests

Chemiluminescence

Enzyme Inhibitors

Hydrogen-Ion Concentration

*Lung: ME, metabolism

*Nitric Oxide: AN, analysis

Nitric Oxide: ME, metabolism

Nitroarginine: PD, pharmacology

Perfusion

Positive-Pressure Respiration

Pulsatile Flow: PH, physiology

Rabbits

Regional Blood Flow: PH, physiology

*Respiration: PH, physiology

RN 10102-43-9 (Nitric Oxide); 2149-70-4 (Nitroarginine)

CN 0 (Enzyme Inhibitors)

L48 ANSWER 5 OF 19 MEDLINE

AN 97105221 MEDLINE

DN 97105221

TI Exhaled nitric oxide in paediatric asthma and cystic fibrosis.

AU Lundberg J O; Nordvall S L; Weitzberg E; Kollberg H; Alving K

CS Department of Physiology and Pharmacology, Karolinska Institute, Stockholm, Sweden.

SO ARCHIVES OF DISEASE IN CHILDHOOD, (1996 Oct) 75 (4) 323-6.

Journal code: 6XG. ISSN: 0003-9888.

CY ENGLAND: United Kingdom

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Abridged Index Medicus Journals; Priority Journals

EM 199703

AB Nitric oxide (NO) is present in exhaled air of humans. This NO is mostly produced in the upper airways, whereas basal NO excretion in the lower airways is low. Children with Kartagener's syndrome have an almost total lack of NO in nasally derived air, whereas adult asthmatics have increased NO in orally exhaled air. NO excretion was measured in the nasal cavity and in orally exhaled air in 19 healthy children, in 36 age matched subjects with asthma, and in eight children with cystic fibrosis. NO levels in orally exhaled air were similar in controls and in children with

cystic fibrosis, at 4.8 (SD 1.2) v 5.8 (0.8) parts per billion (ppb), but were increased in asthmatic children who were untreated or were being treated only with low doses of inhaled steroids (13.8 (2.5) ppb). Nasal NO levels were reduced by about 70% in children with cystic fibrosis compared to controls and asthmatics. Measurements of airway NO release in different parts of the airways may be useful in non-invasive diagnosis and monitoring of inflammatory airway diseases.

CT Check Tags: Comparative Study; Human; Support, Non-U.S. Gov't
 Adolescence
 Adult
 Anti-Inflammatory Agents, Steroidal: AD, administration & dosage
 Anti-Inflammatory Agents, Steroidal: TU, therapeutic use
 Asthma: DT, drug therapy
 *Asthma: ME, metabolism
Breath Tests
 Child
 Child, Preschool
 *Cystic Fibrosis: ME, metabolism
 Drug Administration Schedule
 Kartagener's Syndrome: ME, metabolism
 *Nitric Oxide: AN, analysis
 Nose
 Pregnenediones: AD, administration & dosage
 Pregnenediones: TU, therapeutic use
 RN 10102-43-9 (Nitric Oxide); 51333-22-3 (Budesonide)
 CN 0 (Anti-Inflammatory Agents, Steroidal); 0 (Pregnenediones)

L48 ANSWER 6 OF 19 MEDLINE
 AN 95005002 MEDLINE
 DN 95005002
 TI Differences in end-tidal carbon dioxide and breathing patterns in ventilator-dependent patients using pressure support ventilation.
 AU Pierce J D; Gerald K
 CS University of Kansas School of Nursing, Kansas City 66160-7502..
 SO AMERICAN JOURNAL OF CRITICAL CARE, (1994 Jul) 3 (4) 276-81.
 Journal code: BUM. ISSN: 1062-3264.
 CY United States
 DT (CLINICAL TRIAL)
 Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 199501
 AB BACKGROUND: Although several investigators have assessed the effects of pressure support ventilation on tidal volume and breathing patterns, none have investigated the combination of breathing patterns and end-tidal carbon dioxide in ventilator-dependent patients. OBJECTIVES: To determine the differences in end-tidal carbon dioxide and breathing patterns at varying pressure support ventilation levels in ventilator-dependent patients. METHODS: Breathing patterns were measured with a plethysmograph and a ventilator. End-tidal carbon dioxide was measured by connecting the capnography sampler to the exhalation port of intubated patients. All equipment was connected to a five-channel recorder for data collection. The respiratory rate, tidal volume, minute ventilation, end-tidal carbon dioxide concentration, and chest and abdominal movement were recorded at 10-minute intervals at four pressure

support ventilation levels (0, 10, 15, and 20 cm H₂O). RESULTS: As pressure support ventilation increased, the respiratory rate, end-tidal carbon dioxide concentration, and asynchronous movement of chest and abdomen decreased. Tidal volume increased with higher pressure support ventilation levels. CONCLUSIONS: Pressure support ventilation prevents asynchronous chest and abdominal movement and lowers the level of end-tidal carbon dioxide. Pressure support ventilation offers clinicians a way to lower the elevated carbon dioxide level that often occurs in critically ill patients. Increasing tidal volume and reducing the work of breathing by using pressure support ventilation may reduce diaphragm fatigue in ventilator-dependent patients.

CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't
Abdominal Muscles: PP, physiopathology
Adult
Aged

Breath Tests

*Carbon Dioxide: AN, analysis

Critical Illness

Middle Age

Plethysmography

*Positive-Pressure Respiration

Respiratory Insufficiency: PP, physiopathology

*Respiratory Insufficiency: TH, therapy

*Respiratory Mechanics

Respiratory Muscles: PP, physiopathology

Ventilator Weaning

RN 124-38-9 (Carbon Dioxide)

L48 ANSWER 7 OF 19 MEDLINE

AN 92289311 MEDLINE

DN 92289311

TI Carbon dioxide and oxygen partial pressure in expiratory water condensate are equivalent to mixed expired carbon dioxide and oxygen.

AU von Pohle W R; Anholm J D; McMillan J

CS Jerry L. Pettis Memorial Veterans Administration Medical Center, Loma Linda, Ca..

SO CHEST, (1992 Jun) 101 (6) 1601-4.

Journal code: DIC. ISSN: 0012-3692.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Abridged Index Medicus Journals; Priority Journals; Cancer Journals

EM 199209

AB This study was to determine whether the PCONCO₂ and PCONO₂ which collect in the expiratory trap of a ventilator circuit are equivalent to PECO₂ and PEO₂. Fifty studies were performed in 34 mechanically ventilated male patients. Five milliliters of condensate fluid were collected and PECO₂ and PEO₂ were measured. Exhaled gases were collected simultaneously with condensate fluid for 5 min in a meteorologic balloon and FECO₂ and FEO₂ were measured; PECO₂ and PEO₂ were then calculated. The mean PECO₂ was not significantly different from PCONCO₂ nor was the PCONO₂ significantly different from the condensate PCONO₂. There was a high correlation between mixed expired PECO₂ and PCONCO₂ as well as PEO₂ and PCONO₂. These data indicate expiratory PCONCO₂ and PCONO₂

provide a valid reflection of PECO₂ and PEO₂. The PCO₂ and PCONO₂ measured in a clinical blood gas analyzer are accurate and may be used in calculation of VD/VT and in metabolic assessments.

CT Check Tags: Comparative Study; Human; Male

Aged

Blood Gas Analysis: IS, instrumentation

Breath Tests: IS, instrumentation

***Carbon Dioxide: AN, analysis**

Middle Age

*Oxygen: AN, analysis

Partial Pressure

Positive-Pressure Respiration: IS, instrumentation

Spectrum Analysis, Mass

*Ventilators, Mechanical

RN 124-38-9 (Carbon Dioxide); 7782-44-7 (Oxygen)

L48 ANSWER 8 OF 19 MEDLINE

AN 91365497 MEDLINE

DN 91365497

TI Respiratory nicotine absorption in non-smoking females during passive smoking.

AU Iwase A; Aiba M; Kira S

CS Department of Respiratory Medicine, Juntendo University School of Medicine, Tokyo, Japan..

SO INTERNATIONAL ARCHIVES OF OCCUPATIONAL AND ENVIRONMENTAL HEALTH, (1991) 63 (2) 139-43.

Journal code: GPN. ISSN: 0340-0131.

CY GERMANY: Germany, Federal Republic of

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 199112

AB The aim of this study was to measure nicotine concentrations in inspired and expired air so as to learn more about respiratory (**nasopharyngeal cavity** and lung) nicotine absorption from inspired air and to estimate the nicotine intake during passive smoking. A total of 17 young non-smoking women were exposed to experimental passive smoking. Inspired and expired air was sucked at a constant rate into samplers filled with acid-treated diatomite (Uniport-S) to absorb nicotine in the air. Absorbed nicotine was assayed by gas chromatography. The range of nicotine concentration in the inspired air was 40-200 micrograms/m³. In this setting, 47 samples obtained from the 17 subjects were assayed. Nicotine absorption, which was calculated as [(nicotine concentration in inspired air-nicotine concentration in expired air)/nicotine concentration in inspired air] x 100, remained at 60%-80% (mean +/- SD, 71.3% +/- 10.2%) without being affected by the nicotine concentration in the inspired air. From this result, it was estimated that the average intake of nicotine was 0.026 mg/h in a group of non-smokers exposed in a room containing a nicotine concentration of 100 micrograms/m³, which is equivalent to fairly severe involuntary tobacco smoking. This is the first report on the estimation of respiratory nicotine absorption and nicotine intake during passive smoking based on the direct measurement of nicotine concentrations in both inspired and expired air.

CT Check Tags: Female; Human; Support, Non-U.S. Gov't
Adolescence

Adult
Breath Tests
 Metabolic Clearance Rate: PH, physiology
 *Nicotine: PK, pharmacokinetics
 *Occupational Exposure
 *Tobacco Smoke Pollution
 Tobacco Smoke Pollution: AE, adverse effects
 Tobacco Smoke Pollution: AN, analysis
 RN 54-11-5 (Nicotine)

L48 ANSWER 9 OF 19 MEDLINE
 AN 91324600 MEDLINE
 DN 91324600
 TI Non-invasive pulmonary blood flow measurement by means of CO2
 analysis of expiratory gases.
 AU Bosman R J; Stoutenbeek C P; Zandstra D F
 CS Intensive Care Unit, Onze Lieve Vrouwe Gasthuis, Amsterdam, The
 Netherlands..
 SO INTENSIVE CARE MEDICINE, (1991) 17 (2) 98-102.
 Journal code: H2J. ISSN: 0342-4642.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 199111
 AB Two different methods of CO2-derived non-invasive assessment of the
 pulmonary blood flow were evaluated. The principle of the formula,
 as proposed by Gedeon et al., is based on a rapid change in arterial
 CO2 content and subsequent changes in endtidal PCO2 and CO2
 elimination. Both methods were compared to thermodilution cardiac
 output in 44 postoperative patients after CABG. The first method
 consisted of a short period of hyperventilation followed by
 hypoventilation. Comparison with the thermodilution cardiac output
 showed a low correlation coefficient: using a measured
 arterial--end-tidal PCO2 difference (E) $r = 0.397$ was found.
 Entering a fixed E of 0.53 kPa resulted in $r = 0.454$. These
 disappointing figures may be explained by procedural mistakes. The
 second method, based on partial rebreathing by means of adding an
 additional dead space of 220 ml for 30-45 s, correlated very well
 with the thermodilution findings. Correlation coefficients of $r =$
 0.925 (measured E) and $r = 0.925$ (fixed E) were found. Considering
 the simplicity of the method, the additional dead space approach
 seems to be an easy and reliable way to determine pulmonary blood
 flow.
 CT Check Tags: Comparative Study; Human
 Adult
 Aged
 *Breath Tests
 *Carbon Dioxide: AN, analysis
 *Cardiac Output
 Coronary Artery Bypass
 Evaluation Studies
 Mathematics
 Middle Age
 Positive-Pressure Respiration
 *Pulmonary Circulation
 Thermodilution

RN 124-38-9 (Carbon Dioxide)

L48 ANSWER 10 OF 19 MEDLINE

AN 88198756 MEDLINE

DN 88198756

TI Monitoring differential CO₂ excretion during differential lung ventilation in asymmetric pulmonary contusion. Clinical implications.

AU Zandstra D F; Stoutenbeek C P

CS Instituut voor Anaesthesiologie en Intensive Care, Academisch Ziekenhuis Groningen, The Netherlands..

SO INTENSIVE CARE MEDICINE, (1988) 14 (2) 106-9.

Journal code: H2J. ISSN: 0342-4642.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 198808

AB Eighteen severely injured polytrauma patients (ISS 38 +/- 18) with severe asymmetric pulmonary contusion were ventilated with differential lung ventilation (DLV) to improve oxygenation and/or to prevent further unnecessary barotrauma to the lesser involved lung. Differential VCO₂ was studied as a parameter for indirect measurement of effective individual pulmonary perfusion. One hour after starting DLV, difference in differential VCO₂ (delta VCO₂) was 81 +/- 57 ml/min. In 16 patients this had fallen significantly (p less than 0.001) to 32 +/- 30 ml/min, 1 h before DLV was discontinued. In 2 patients, VCO₂ remained greater than 200 ml/min, coinciding with clinical deterioration and increasing consolidation of the pulmonary contusion. Bilobectomies were performed in both patients. The excised lobes appeared to be destroyed as the result of laceration, bleeding and subsequent haematomas. This clinical study supports laboratory studies suggesting the usefulness of monitoring differential VCO₂ to assess effective differential pulmonary perfusion during DLV.

CT Check Tags: Human

Adolescence

Adult

Aged

Breath Tests

*Carbon Dioxide: AN, analysis

*Contusions: PP, physiopathology

*Lung: IN, injuries

Lung: PP, physiopathology

Middle Age

*Monitoring, Physiologic

Partial Pressure

Positive-Pressure Respiration

*Respiration, Artificial: MT, methods

RN 124-38-9 (Carbon Dioxide)

L48 ANSWER 11 OF 19 MEDLINE

AN 88160564 MEDLINE

DN 88160564

TI "Closing volume" during high-frequency ventilation in anesthetized dogs.

AU Hachenberg T; Wendt M; Meyer J; Wrenger K; Lawin P

Choon Koh STIC/LIBRARY 308-4133

CS Department of Anesthesiology and Intensive Care, Westfalische
Wilhelms-Universitat Munster, FRG..

SO ACTA ANAESTHESIOLOGICA SCANDINAVICA, (1988 Feb) 32 (2) 140-6.
Journal code: 080. ISSN: 0001-5172.

CY Denmark

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 198806

AB Airway closure, mean airway pressure, gas exchange and different
modes of artificial ventilation were investigated in anesthetized
and paralyzed dogs with clinically healthy lungs. The animals were
ventilated with either intermittent positive pressure ventilation
(IPPV), continuous positive pressure ventilation (GPPV, positive
end-expiratory pressure (PEEP) = 0.49 kPa) or high-frequency jet
ventilation (HFJV, open system) of 2 and 30 Hz with an inspiratory
to expiratory (I/E) - ratio of 30/70 and 60/40. Closing volume (CV)
was determined by a modified technique, submitting the lung to
constant subatmospheric pressure after an inspiratory vital capacity
of oxygen. Two different tests for CV were used: the foreign gas
bolus (FGB) with helium as nonresident gas and the single breath
nitrogen dilution technique (SBO2). During conventional mechanical
ventilation, CV decreased significantly (P less than 0.05) after
establishing a PEEP of 0.49 kPa. During HFJV, CV increased
significantly (P less than 0.01). This effect was predominantly
dependent on I/E duration time ratio and to a lesser extent on
ventilatory frequency. There were significant differences between CV
obtained by the FGB-method (CV[helium]) and CV derived from the
SBO2-test (CV(SBO2)), although both tests revealed the same
proportional changes of CV during the different modes of
ventilation. The elevated CV was associated with a decreasing Pao2
and increasing Aa-Do2 and Paco2, indicating substantial
hypoventilation and mismatching of ventilation and perfusion. Mean
airway pressure increased with both CPPV and HFJV, revealing a
dissociation between airway pressure and regional FRC distribution
during HFJV. It is concluded that certain modes of high-frequency
ventilation lead to impaired distribution of inspired gas to
dependent lung regions. (ABSTRACT TRUNCATED AT 250 WORDS)

CT Check Tags: Animal
Anesthesia, Intravenous
Breath Tests
Closing Volume
Dogs
Helium
Nitrogen
***Positive-Pressure Respiration**
Pulmonary Gas Exchange
***Respiration**

RN 7440-59-7 (Helium); 7727-37-9 (Nitrogen)

L48 ANSWER 12 OF 19 MEDLINE

AN 87161288 MEDLINE

DN 87161288

TI Comparative metabolism and disposition of 1-chloro- and
3-chloro-2-methylpropene in rats and mice.

AU Ghanayem B I; Burka L T

SO DRUG METABOLISM AND DISPOSITION, (1987 Jan-Feb) 15 (1) 91-6.
Choon Koh STIC/LIBRARY 308-4133

Journal code: EBR. ISSN: 0090-9556.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 198707

AB A recent 2-year carcinogenicity study found that gavage administration of 3-chloro-2-methylpropene (CMP), containing 5% 1-chloro-2-methylpropene (dimethylvinyl chloride, DMVC), caused forestomach neoplasms in rats and mice. Similar chronic studies revealed that DMVC caused forestomach neoplasms in both rats and mice; neoplasms of the **nasal** and oral **cavities** were observed in rats but not in mice. In the current studies we have investigated the metabolic basis of these differences. Daily doses of 150 mg/kg of 2-[14C]DMVC or 2-[14C]CMP were administered to rats for 1, 2, or 4 consecutive days. One daily dose of 150 mg/kg of DMVC was administered to mice. Both DMVC and CMP were rapidly metabolized; however, CMP was cleared at a slightly lower rate. Rats exhaled approximately 25 and 10% of the DMVC and CMP as CO₂, respectively. Mice exhaled 25% of the DMVC as CO₂. Rats expired 30% of the administered DMVC unchanged in the 24 hr after dosing compared to only 7% of the administered CMP. Mice expired 5% of the administered DMVC in the same time period. This observation may explain the occurrence of tumors in the **nasal** and oral **cavities** of rats treated with DMVC but not in rats treated with CMP or in mice treated with DMVC in 2-year carcinogenicity studies. The 24-hr urinary excretion in rats was 35% of the administered DMVC compared to 58% of CMP. Mice excreted 47% of the administered DMVC in 24 hr in the urine. An unusual urinary metabolite of DMVC, 2-amino-6-methyl-4-thia-5-heptene-1,7-dioic acid, was identified. (ABSTRACT TRUNCATED AT 250 WORDS)

CT Check Tags: Animal; Comparative Study; Male
 Acetylation
 *Allyl Compounds: ME, metabolism
Breath Tests
 *Carcinogens: ME, metabolism
 Chromatography, High Pressure Liquid
 *Insecticides, Organochlorine: ME, metabolism
 Mice
 Rats
 Rats, Inbred F344
 Species Specificity
 Tissue Distribution
 Vinyl Chloride: AA, analogs & derivatives
 *Vinyl Chloride: ME, metabolism
 *Vinyl Compounds: ME, metabolism

RN 513-37-1 (1-chloro-2-methylpropene); 563-47-3 (3-chloro-2-methylprop-1-ene); 75-01-4 (Vinyl Chloride)

CN 0 (Allyl Compounds); 0 (Carcinogens); 0 (Insecticides, Organochlorine); 0 (Vinyl Compounds)

L48 ANSWER 13 OF 19 MEDLINE

AN 87003580 MEDLINE

DN 87003580

TI Simple and accurate monitoring of end-tidal carbon dioxide tensions during high-frequency jet ventilation.

AU Algora-Weber A; Rubio J J; Dominguez de Villota E; Cortes J L; Gomez Choon Koh STIC/LIBRARY 308-4133

D; Mosquera J M
 SO CRITICAL CARE MEDICINE, (1986 Oct) 14 (10) 895-7.
 Journal code: DTF. ISSN: 0090-3493.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Abridged Index Medicus Journals; Priority Journals
 EM 198701
 AB To determine whether end-tidal carbon dioxide tension (PETCO₂) accurately reflects PaCO₂ during high-frequency jet ventilation (HFJV), 43 studies were performed on eight mongrel dogs with normal lungs. During HFJV, minute volume was modified to obtain a range of PaCO₂ values from 15.5 to 74.5 torr. When PETCO₂ was measured with an infrared gas analyzer, there was a poor correlation between PaCO₂ and PETCO₂ values. However, when the high-frequency ventilator was adjusted to deliver large tidal-volume (sigh) breaths, PETCO₂ values were significantly ($r = 0.94$, p less than .001) correlated with PaCO₂. Our data suggest that the PETCO₂ of alveolar gas is an accurate indicator of the PaCO₂ during HFJV in nondiseased lungs.
 CT Check Tags: Animal
 *Breath Tests
 *Carbon Dioxide: AN, analysis
 Carbon Dioxide: BL, blood
 Dogs
 *Monitoring, Physiologic
 Partial Pressure
 *Positive-Pressure Respiration
 RN 124-38-9 (Carbon Dioxide)
 L48 ANSWER 14 OF 19 MEDLINE
 AN 86293987 MEDLINE
 DN 86293987
 TI The **soft palate** and breathing.
 AU Rodenstein D O; Stanescu D C
 SO AMERICAN REVIEW OF RESPIRATORY DISEASE, (1986 Aug) 134 (2) 311-25.
 Ref: 172
 Journal code: 426. ISSN: 0003-0805.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 General Review; (REVIEW)
 LA English
 FS Abridged Index Medicus Journals; Priority Journals
 EM 198611
 CT Check Tags: Human; Support, Non-U.S. Gov't
 Breath Tests
 Child
 Child, Preschool
 Choanal Atresia: PP, physiopathology
 Exertion
 Fluorometry
 Infant
 Infant, Newborn
 Lip
 Mouth Breathing
 Nose
 Palate: AH, anatomy & histology
 *Palate: PH, physiology

*Respiration

Sleep Apnea Syndromes: PP, physiopathology

Sleep Apnea Syndromes: SU, surgery

Smoking

Snoring: PP, physiopathology

Spirometry

Sudden Infant Death: PP, physiopathology

Uvula: AH, anatomy & histology

L48 ANSWER 15 OF 19 MEDLINE

AN 86289116 MEDLINE

DN 86289116

TI Measurement and regulation of nasal airflow resistance in man.

AU Syabbalo N C; Bundgaard A; Entholm P; Schmidt A; Widdicombe J G

SO RHINOLOGY, (1986 Jun) 24 (2) 87-101.

Journal code: TEX. ISSN: 0300-0729.

CY Netherlands

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 198611

AB A method for measuring human nasal airflow resistance (R_{naw}) is described. Air flows at constant pressure through both **nasal cavities** via a face mask and out through the mouth. Airflow is inversely related to R_{naw}. The method has several advantages over many other methods for measuring R_{naw}, in particular allowing aerodynamic separation of nose and lungs, and frequent measurements over long periods without discomfort to or intervention with subjects or patients. We have used this method to obtain standard values of R_{naw} in healthy subjects and in patients with asthma and/or rhinitis. Age has a negative correlation with R_{naw} but no sexual difference was seen. Cigarette smoking increases R_{naw} especially in young adults. Patients with rhinopathy have much higher resistances than healthy subjects, but those with asthma alone do not. R_{naw} is sensitive to changes in ventilation and lung volumes; deep inspiration and oral hyperventilation decrease R_{naw}, while deep expiration, nasal hyperventilation and breath-holding increase it. Hypoxia and hypercapnia locally applied in the nose increase R_{naw}. It is suggested that these changes are predominantly due to changes in control of the nasal vascular bed.

CT Check Tags: Comparative Study; Female; Human; Male

Adolescence

Adult

Aged

*Airway Resistance

*Asthma: PP, physiopathology

*Breath Tests: MT, methods

Hyperventilation: PP, physiopathology

Middle Age

*Nasal Cavity: PH, physiology

Nasal Cavity: PP, physiopathology

Rhinitis: PP, physiopathology

Smoking

L48 ANSWER 16 OF 19 MEDLINE

AN 85211767 MEDLINE

DN 85211767

TI Carcinogenicity of diallylnitrosamine following intragastric administration to Syrian hamsters.
 AU Grandjean C J; Althoff J; Pour P M
 NC NO1CP 33278 (NCI)
 SO JOURNAL OF THE NATIONAL CANCER INSTITUTE, (1985 May) 74 (5) 1043-6.
 Journal code: J9J. ISSN: 0027-8874.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals; Cancer Journals
 EM 198509
 AB Single and multiple intragastric doses of diallylnitrosamine [(DAN) CAS: 16338-97-9] administered to Syrian golden hamsters induced tumors, primarily of the respiratory tract, in which the nasal cavity epithelium was the preferred site. When compared to the effect of DAN after subcutaneous administration at equal doses, the incidence of respiratory tract tumors was lower but that of hepatic tumors was higher, suggesting partial metabolism of DAN in the liver. Comparative metabolic and mutagenesis studies in BD IX rats (which reportedly are refractory to the carcinogenic effects of DAN), in Wistar rats, and in Syrian hamsters showed that a greater proportion of orally administered DAN was exhaled by both rat strains (12-19%) than by hamsters (2-4%). The activity of the microsomal fraction of the hamster liver for metabolizing DAN to allyl alcohol was about 10 times higher than that in rats, whereas no significant species differences were found with the cytosolic fraction. Pretreatment of animals with phenobarbital (PB) or pregnenolone-16 alpha-carbonitrile (PCN) did not influence either microsomal or cytosolic enzyme activities in hamsters, whereas about a tenfold increase in enzyme activities was seen after pretreatment with PB in both rat strains and following PCN in Wistar rats. Moreover, in bacterial mutagenesis assays, hamster liver microsomes were twice as active as those in BD IX rats. The results are discussed in relation to the carcinogenicity of DAN in rats and hamsters.
 CT Check Tags: Animal; Comparative Study; Female; In Vitro; Male; Support, U.S. Gov't, P.H.S.
 *Adenocarcinoma: CI, chemically induced
 Biotransformation
 Breath Tests
 *Carcinogens: TO, toxicity
 Cell Fractionation
 Chromatography, Gas
 Cytosol: ME, metabolism
 Hamsters
 Lethal Dose 50
 Liver: DE, drug effects
 Liver: ME, metabolism
 Liver: PA, pathology
 *Liver Neoplasms: CI, chemically induced
 Mesocricetus
 Microsomes, Liver: ME, metabolism
 Mutagenicity Tests
 Nitrosamines: ME, metabolism
 *Nitrosamines: TO, toxicity
 Nitrosamines: UR, urine
 *Otorhinolaryngologic Neoplasms: CI, chemically induced
 Choon Koh STIC/LIBRARY 308-4133

*Papilloma: CI, chemically induced
 Rats
 Rats, Inbred Strains
 RN 16338-97-9 (diallylnitrosamine)
 CN 0 (Carcinogens); 0 (Nitrosamines)

L48 ANSWER 17 OF 19 MEDLINE
 AN 85172714 MEDLINE
 DN 85172714
 TI Inability to titrate PEEP in patients with acute respiratory failure
 using end-tidal carbon dioxide measurements.
 AU Jardin F; Genevray B; Pazin M; Margairaz A
 SO ANESTHESIOLOGY, (1985 Apr) 62 (4) 530-3.
 Journal code: 4SG. ISSN: 0003-3022.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Abridged Index Medicus Journals; Priority Journals
 EM 198507
 CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't
 Acute Disease
 Adolescence
 Adult
 Aged
 Breath Tests
 *Carbon Dioxide: AN, analysis
 Carbon Dioxide: BL, blood
 Functional Residual Capacity
 Lung Compliance
 Middle Age
 Oxygen: BL, blood
 *Positive-Pressure Respiration: MT, methods
 Respiratory Insufficiency: PP, physiopathology
 *Respiratory Insufficiency: TH, therapy
 RN 124-38-9 (Carbon Dioxide); 7782-44-7 (Oxygen)

L48 ANSWER 18 OF 19 MEDLINE
 AN 84104520 MEDLINE
 DN 84104520
 TI Deadspace and the single breath test for carbon dioxide during
 anaesthesia and artificial ventilation. Effects of tidal volume and
 frequency of respiration.
 AU Fletcher R; Jonson B
 SO BRITISH JOURNAL OF ANAESTHESIA, (1984 Feb) 56 (2) 109-19.
 Journal code: AUO. ISSN: 0007-0912.
 CY ENGLAND: United Kingdom
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 198405
 AB Using the single breath test for carbon dioxide (SBT-CO2), the
 components of physiological deadspace were investigated during
 anaesthesia with IPPV in 58 patients. A square-wave inspiratory flow
 and an end-inspiratory pause (25% and 10% of cycle time,
 respectively) were used. At tidal volumes of 0.45 litre (f = 17
 b.p.m.), and 0.75 litre (f = 9 b.p.m.), median values for VDphys/VT
 were 0.44 and 0.31. Increasing VT and decreasing f did not change

airway deadspace (VDaw) so that the fraction VDaw/VT was decreased (P less than 0.001). The alveolar deadspace fraction, V_Dalv/V_Talv, was decreased in 93% of patients (P less than 0.001). These improvements with increasing VT can be attributed to beneficial effects on gas distribution and diffusion time. Patients with large alveolar deadspaces had steeply sloping SBT-CO₂ phase III, and increased expiratory time constants of the respiratory system. The median arterial--end-tidal PCO₂ difference, (PaCO₂-PE'CO₂), was 0.6 kPa at small and 0.3 kPa at large tidal volumes (P less than 0.001). Three patients had zero and four had negative (PaCO₂-PE'CO₂) values at large tidal volumes. When phase III slopes steeply, negative (PaCO₂-PE'CO₂) values may be observed in the presence of alveolar deadspace.

CT Check Tags: Human; Support, Non-U.S. Gov't

Adolescence

Adult

Aged

*Anesthesia, Inhalation

*Breath Tests

Carbon Dioxide: BL, blood

*Carbon Dioxide: PH, physiology

*Intermittent Positive-Pressure Ventilation

Middle Age

Partial Pressure

*Positive-Pressure Respiration

Pulmonary Gas Exchange

Respiration

*Respiratory Dead Space

Tidal Volume

Time Factors

RN 124-38-9 (Carbon Dioxide)

L48 ANSWER 19 OF 19 MEDLINE

AN 80173335 MEDLINE

DN 80173335

TI Mixed expired gas transients as a noninvasive index of the effects of PEEP.

AU Zinn S E; Ozanne G M; Fairley H B

SO ANESTHESIOLOGY, (1980 Mar) 52 (3) 261-4.

Journal code: 4SG. ISSN: 0003-3022.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Abridged Index Medicus Journals; Priority Journals

EM 198008

CT Check Tags: Female; Human; Male

Adult

Aged

Breath Tests

Carbon Dioxide: AN, analysis

Cardiac Output

Middle Age

Oxygen: AN, analysis

*Oxygen Consumption

*Positive-Pressure Respiration

*Respiratory Insufficiency: ME, metabolism

Respiratory Insufficiency: TH, therapy

Choon Koh STIC/LIBRARY 308-4133

Weiss 08/851,420

RN 124-38-9 (Carbon Dioxide); 7782-44-7 (Oxygen)

=> file embase

FILE 'EMBASE' ENTERED AT 09:42:30 ON 12 AUG 1998

COPYRIGHT (C) 1998 Elsevier Science B.V. All rights reserved.

FILE COVERS 1974 TO 6 Aug 1998 (19980806/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d his 149- full

FILE 'EMBASE' ENTERED AT 09:18:48 ON 12 AUG 1998

L49	2160	SEA ABB=ON	PLU=ON	BREATH ANALYSIS/CT
L50	708817	SEA ABB=ON	PLU=ON	0130/CT
L51	318	SEA ABB=ON	PLU=ON	L49 AND L50
L52	2160	SEA ABB=ON	PLU=ON	L34 AND L49
L53	2160	SEA ABB=ON	PLU=ON	L49 AND L52
L54	318	SEA ABB=ON	PLU=ON	L53 AND L51
L55	20310	SEA ABB=ON	PLU=ON	(NITRIC(W)OXIDE OR NO OR CARBON(W)DIO XIDE OR CO2 OR GAS? OR COMPONENT) (5A) (BREATH OR EXHALANT OR PULMONARY OR LUNG)
L56	49	SEA ABB=ON	PLU=ON	L54 AND L55
L57	4503	SEA ABB=ON	PLU=ON	L22 OR L29 OR L30
L58	0	SEA ABB=ON	PLU=ON	L57 AND L56
L59	10472	SEA ABB=ON	PLU=ON	PARTIAL(W)PRESSURE OR PP
L60	2	SEA ABB=ON	PLU=ON	L57 AND L59
L61	70	SEA ABB=ON	PLU=ON	CLOS?(3A)L57
L62	0	SEA ABB=ON	PLU=ON	L61 AND L49
L63	1	SEA ABB=ON	PLU=ON	L61 AND L34
L64	12111	SEA ABB=ON	PLU=ON	BREATH OR EXHALANT
L65	3	SEA ABB=ON	PLU=ON	L61 AND L64
L66	5	SEA ABB=ON	PLU=ON	L60 OR L63 OR L65
L67	49	SEA ABB=ON	PLU=ON	L56 NOT L66

=> d 166 1-5 all

L66 ANSWER 1 OF 5 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.

AN 97213018 EMBASE

TI Nasal contribution to exhaled nitric oxide during exhalation against resistance or during **breath** holding.

AU Kharitonov S.A.; Barnes P.J.

CS Prof. P.J. Barnes, Department of Thoracic Medicine, National Heart and Lung Institute, Imperial School of Medicine, Dovehouse Street, London SW3 6LY, United Kingdom

SO Thorax, (1997) 52/6 (540-544).

Refs: 25

ISSN: 0040-6376 CODEN: THORA7

CY United Kingdom

DT Journal

FS 015 Chest Diseases, Thoracic Surgery and Tuberculosis

LA English

SL English

AB Background - The concentration of nitric oxide (NO) is increased in

Choon Koh STIC/LIBRARY 308-4133

Page 56

the exhaled air of patients with inflammation of the airways, suggesting that this may be a useful measurement to monitor inflammation in diseases such as asthma. However, there have been concerns that exhaled NO may be contaminated by the high concentrations of NO derived from the upper airways, and that this may account for differences in reported values of exhaled NO using different techniques. A study was performed, with argon as a tracer, to determine the extent of nasal contamination of exhaled NO using different expiratory manoeuvres. Methods - Exhaled and nasal NO were measured by a chemiluminescence analyser. Argon (4.8%) was delivered continuously to the nose. Gas was sampled from the posterior oropharynx and argon and carbon dioxide were measured by mass spectrometry at the same time as NO. Results - During a single expiration against a low resistance and during **breath** holding there was no evidence for nasal contamination, whereas during exhalation without resistance argon concentration in the oropharynx was increased from 0.91% (95% CI 0.84% to 0.98%) in ambient air to 1.28% (0.9% to 2.24%, $p < 0.0001$) during a single **breath** or 2.37% (2.29% to 2.51%, $p < 0.0001$) during tidal breathing. Conclusions - Collection of exhaled NO in a reservoir during tidal breathing is likely to be contaminated by NO derived from the nose and this may underestimate any increases in NO derived from the lower respiratory tract in inflammatory diseases. However, with slow expiration against a resistance and created back pressure to **close the soft palate**, there is no contamination of exhaled air which then reflects concentrations of NO in the lower airways.

CT EMTAGS: diagnosis (0140); mammal (0738); human (0888); normal human (0800); article (0060); priority journal (0007)

Medical Descriptors:

*asthma: DI, diagnosis

*respiratory tract inflammation: DI, diagnosis
diagnostic value

expired air

tidal volume

nose airflow

human

normal human

article

priority journal

Drug Descriptors:

*nitric oxide

RN (nitric oxide) 10102-43-9

L66 ANSWER 2 OF 5 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.

AN 97036475 EMBASE

TI Marked flow-dependence of exhaled nitric oxide using a new technique to exclude nasal nitric oxide.

AU Silkoff P.E.; McClean P.A.; Slutsky A.S.; Furlott H.G.; Hoffstein E.; Wakita S.; Chapman K.R.; Szalai J.P.; Zamel N.

CS Canada

SO American Journal of Respiratory and Critical Care Medicine, (1997) 155/1 (260-267).

Refs: 33

ISSN: 1073-449X CODEN: AJCMED

CY United States

DT Journal

FS 015 Chest Diseases, Thoracic Surgery and Tuberculosis
 LA English
 SL English
 AB Exhaled nitric oxide (NO) may aid in **monitoring** pulmonary disease. The single-breath NO profile (subjects with nose clip) was described as a NO peak followed by a plateau (NO(PLAT)). Published exhaled NO values vary greatly, possibly due to contamination with nasal NO and differing respiratory maneuvers. We developed a technique to measure pulmonary NO, without nasal NO, by having the subject maintain a positive expiratory pressure (ensuring **vellum closure**), and we examined the variation in NO(PLAT) over a range of expiratory flows (4.2 to 1,550 ml/s). NO(PLAT) values rose almost 35-fold (3.2 \pm 1.4 ppb to 110.5 \pm 54.8 ppb) with decreasing flow, described by NO(PLAT) = 208.6795 x (flow rate)^{-0.5995}. However, NO excretion showed an almost 11-fold rise as flow increased. In summary, we present a simple technique for measuring exhaled NO without contamination by nasal NO. There is a marked flow dependence of exhaled NO concentration and excretion. Exhaled pulmonary NO is best measured at very low flow rates to amplify the signal and must be related to the expiratory flow employed.

CT EMTAGS: diagnosis (0140); therapy (0160); mammal (0738); human (0888); human experiment (0104); adolescent (0017); adult (0018); article (0060); priority journal (0007)
 Medical Descriptors:
 *lung disease: DI, diagnosis
 expired air
 positive end expiratory pressure
 chemoluminescence
 tidal volume
 exercise
 hyperventilation
 asthma: DI, diagnosis
 human
 human experiment
 adolescent
 adult
 article
 priority journal
 Drug Descriptors:
 *nitric oxide: EC, endogenous compound

L66 ANSWER 3 OF 5 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
 AN 96049661 EMBASE
 TI Nasal contribution to exhaled nitric oxide at rest and during breathholding in humans.
 AU Kimberly B.; Nejadnik B.; Giraud G.D.; Holden W.E.
 CS Portland VA Medical Center, 3710 S.W. U.S. Veterans Rd., Portland, OR 97201, United States
 SO American Journal of Respiratory and Critical Care Medicine, (1996) 153/2 (829-836).
 ISSN: 1073-449X CODEN: AJCMED
 CY United States
 DT Journal
 FS 002 Physiology
 029 Clinical Biochemistry
 LA English

SL English

AB We characterized the nasal contribution to exhaled nitric oxide (NO) at rest and during breathholding in humans. Exhaled NO was greater during nose breathing (141 \pm 17 nl/min/M2, mean \pm SEM) compared with mouth breathing (68 \pm 6 nl/min/M2, n = 8, p < 0.001). After voluntary closure of the soft palate (VCSP) to eliminate nasal NO, exhaled NO from the mouth decreased further (30 \pm 4 nl/min/M2, p < 0.001). Release of NO into nasal passages during VCSP (217 \pm 19 nl/min/M2) was greater than exhaled NO during nasal breathing (141 \pm 17 nl/min/M2, p < 0.001), suggesting that nasal NO is taken up by the respiratory tract. During mouth breathing or nose breathing, NO concentrations sampled with a bronchoscope were higher in the nasopharynx than at the epiglottis or in the trachea in five subjects. Increased peak exhaled NO after a breathhold (33 \pm 7 ppb) was reduced (10 \pm 4 ppb, p < 0.001) after balloon occlusion of the nasopharynx. NO concentration during breathholding increased to a greater extent in the nasopharynx than in the pharynx or trachea. We conclude that the majority of exhaled NO at rest and during a breathhold originates in the nasopharynx.

CT EMTAGS: respiratory system (0930); pharynx (0932); mouth (0931); larynx (0933); musculoskeletal system (0960); cartilage (0963); diagnosis (0140); mammal (0738); human (0888); male (0041); human experiment (0104); normal human (0800); controlled study (0197); adult (0018); priority journal (0007); article (0060)

Medical Descriptors:

- *breath holding
- *nose breathing
- *nasopharynx
- soft palate
- mouth breathing
- epiglottis
- trachea
- bronchoscopy
- exhalation
- oxygen tension
- carbon dioxide tension
- human
- male
- human experiment
- normal human
- controlled study
- adult
- priority journal
- article

Drug Descriptors:

- *nitric oxide: EC, endogenous compound

RN (nitric oxide) 10102-43-9

L66 ANSWER 4 OF 5 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.

AN 94363134 EMBASE

TI Patterns of abnormal myogenesis in human cleft palates.

AU Cohen S.R.; Chen L.L.; Burdi A.R.; Trotman C.-A.

CS Center for Craniofacial Disorders, c/o Atlanta Plastic Surgery, 975 Johnson Ferry Road, Atlanta, GA 30342, United States

SO CLEFT PALATE-CRANIOFAC. J., (1994) 31/5 (345-350).
ISSN: 1055-6656 CODEN: CPJOEG
Choon Koh STIC/LIBRARY 308-4133

CY United States
 DT Journal
 FS 011 Otorhinolaryngology
 021 Developmental Biology and Teratology
 022 Human Genetics
 LA English
 SL English
 AB To test the hypothesis that **soft palate** muscles are abnormal in cleft palate, we compared **soft palate** morphogenesis in fetuses with cleft palate (n=4) to age-matched (n=3) and nonmatched (n=1) control specimens. The morphologic status of all **soft palate** and masticatory structures were classified into one of six stages based on the level of histogenesis. At 54 mm crown-rump length (CRL), the levator veli palatini (L), palatopharyngeus (PP), and palatoglossus (PG) in cleft subjects demonstrated mesenchymal condensation into myoblastic fields, lagging behind the control specimens (97 mm CRL), which displayed definitive fields of myoblasts and myotube formation. In the 175 mm and 225 mm cleft and the 170 mm and 192 mm control specimens, muscular morphology was similar and had reached its postnatal appearance for the tensor veli palatini (175 mm only) and L, PP, PG (225 mm only). Muscle fiber directions were, however, disoriented and disorganized, especially close to the medial epithelial edge of the cleft. The levator veli palatini, could not be distinguished as a discrete muscle in the cleft specimens, and what we believed to be the PP and PG seemed 'normal' at the level of light microscopy, but malpositioned in a superior direction. This preliminary study demonstrates for the first time that early myogenesis in cleft palates differs from normal.
 CT EMTAGS: congenital disorder (0315); etiology (0135); mouth (0931); embryo (0011); mammal (0738); human (0888); case report (0151); controlled study (0197); fetus (0012); priority journal (0007); article (0060)
 Medical Descriptors:
 *cleft palate: ET, etiology
 *muscle disease
 developmental disorder: ET, etiology
soft palate
 morphogenesis
 mastication
 myotube
 muscle cell
 histogenesis
 human
 case report
 controlled study
 fetus
 priority journal
 article

L66 ANSWER 5 OF 5 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
 AN 92235843 EMBASE
 TI Popliteal pterygium syndrome with special consideration of the cleft malformation: Case report.
 AU Koch H.; Grzonka M.; Koch J.
 CS Bachstr. 21, 6349 Greifenstein-Holzhausen, Germany, Federal Republic

of
 SO CLEFT PALATE-CRANIOFAC. J., (1992) 29/1 (80-84).
 ISSN: 1055-6656 CODEN: CPJOEG
 CY United States
 DT Journal
 FS 009 Surgery
 011 Otorhinolaryngology
 022 Human Genetics
 LA English
 SL English
 AB This report describes a new case of popliteal pterygium syndrome (PPS) and also a treatment protocol. The patient presented with the complete complex of PPS and additional abnormalities that have not been described in the literature: a sinus of the upper lip, an extreme hypoplastic prolabium with aplasia of the vestibule in this area, and a velar pterygium.
 CT EMTAGS: congenital disorder (0315); mouth (0931); respiratory system (0930); face, nose and sinuses (0984); mammal (0738); human (0888); female (0042); case report (0151); newborn (0013); infant (0014); child (0022); article (0060)
 Medical Descriptors:
 *sexual development
 *cleft palate: CN, congenital disorder
 *cleft palate: SU, surgery
 *cleft lip: CN, congenital disorder
 *cleft lip: SU, surgery
 *syndactyly: CN, congenital disorder
 *syndactyly: SU, surgery
 *syndrome
 hard palate
 soft palate
 vomeronasal organ
 upper lip
 jaw malformation
 middle ear effusion
 varus deformity
 human
 female
 case report
 newborn
 article

=> d 167 1-49 ti

- L67 ANSWER 1 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
 TI Possible antioxidant effect of vitamin A supplementation in premature infants.
- L67 ANSWER 2 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
 TI Measuring energy costs of leisure activity in adolescents using a CO2 breath test.
- L67 ANSWER 3 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
 TI Exhaled human breath measurement method for assessing exposure to halogenated volatile organic compounds.
- L67 ANSWER 4 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
 Choon Koh STIC/LIBRARY 308-4133

- TI Application of isotope-selective nondispersive infrared spectrometry (IRIS) for evaluation of [¹³C]octanoic acid **gastric** -emptying. **breath** tests: Comparison with isotope ratio-mass spectrometry (IRMS).
- L67 ANSWER 5 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Selected ion flow tube: A technique for **quantitative** trace **gas analysis** of air and **breath**.
- L67 ANSWER 6 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI The selected ion flow tube (SIFT) - A novel technique for biological monitoring.
- L67 ANSWER 7 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Origins of **breath nitric oxide** in humans.
- L67 ANSWER 8 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Determination of isoprene in human **breath** by thermal desorption **gas** chromatography with ultraviolet **detection**.
- L67 ANSWER 9 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI An experiment on drinking using **breath** alcohol **monitor** (Alcomed 3010) by an electrochemical method.
- L67 ANSWER 10 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Carbobydrate malabsorption: **Quantification** by methane and hydrogen **breath** tests.
- L67 ANSWER 11 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Magnesium hydrogen **breath** test using end expiratory sampling to assess achlorhydria in pernicious anaemia patients.
- L67 ANSWER 12 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Electrochemical **measurement** of carbon monoxide in **breath**: Interference by hydrogen.
- L67 ANSWER 13 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Anaerobic threshold detection in patients with congestive heart failure.
- L67 ANSWER 14 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Diethyl ether interference with infrared **breath analysis**.
- L67 ANSWER 15 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI A model-based evaluation of the single-**breath** CO₂ ventilatory response test.
- L67 ANSWER 16 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Display of the alveolar plateau of single-breath tests in 'dilution index' format.
- L67 ANSWER 17 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Diagnostic value of **breath** tests in **gastroenterology**.

- L67 ANSWER 18 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Verification of Intoximeter 3000 breath alcohol concentration by magnesium perchlorate tube method in long-term field program.
- L67 ANSWER 19 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Rapid sample throughput for biomedical stable isotope tracer studies.
- L67 ANSWER 20 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI A computerized classification technique for screening for the presence of breath biomarkers in lung cancer.
- L67 ANSWER 21 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Invasive and noninvasive measurement of the respiratory deadspace in anesthetized children with cardiac disease.
- L67 ANSWER 22 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Automated measurement of the concentration and ¹³C enrichment of **carbon dioxide** in **breath** and blood samples using the Finnigan MAT **Breath Gas Analysis System**.
- L67 ANSWER 23 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI The origin of hydrogen cyanide in breath.
- L67 ANSWER 24 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Breath-acetone concentrations in fasting healthy men: Response of infrared **breath-alcohol analyzers**.
- L67 ANSWER 25 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI **Breath-by-breath** measurement of alveolar **gas** exchange with a slow-response gas analyser.
- L67 ANSWER 26 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Drug-alcohol flush reaction and **breath** acetaldehyde concentration: **No** interference with an infrared **breath alcohol analyzer**.
- L67 ANSWER 27 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Selection of a suitable internal standard in head space **gas** chromatographic **breath ethanol analysis** after adsorption on silica gel.
- L67 ANSWER 28 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI [Methodological aspects of the hydrogen (H₂) breath test].
METHODISCHE ASPEKTE ZUR ANWENDUNG DES WASSERSTOFF (H₂)-ATEMTESTES.
- L67 ANSWER 29 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Evaluation of **gastrointestinal** motility using the hydrogen **breath** test.
- L67 ANSWER 30 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Evidential breath testing of drivers - Day surgery and halothane anaesthesia.
- L67 ANSWER 31 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
Choon Koh STIC/LIBRARY 308-4133

- TI Comparison of the phenacetin and aminopyrine breath tests: Effect of liver disease, inducers and cobaltous chloride.
- L67 ANSWER 32 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI SBT-CO2: A new method for the diagnosis of pulmonary embolism?.
- L67 ANSWER 33 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI **Breath** hydrogen as a test for **gastrointestinal** transit.
- L67 ANSWER 34 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI **13C-Carbon dioxide breath** tests in **gastroenterology**.
- L67 ANSWER 35 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI [Simplified methods for **breath** hydrogen (H2) **analysis**: Clinical investigation of two H2 **breath** test-devices].
VEREINFACHTE METHODEN ZUR ENDEXSPIRATORISCHEN WASSERSTOFF (H2)-ANALYSE - KLINISCHE ERPROBUNG ZWEIER H2-ATEMTESTGERATE.
- L67 ANSWER 36 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI An inexpensive **gas** chromatograph for **breath** hydrogen **analysis**.
- L67 ANSWER 37 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI **Gas** chromatographic **quantitation** of **breath** hydrogen and carbon monoxide for clinical investigation in adults and in children.
- L67 ANSWER 38 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI **Quantitative measurements** of the alcohol concentration and the temperature of **breath** during a prolonged exhalation.
- L67 ANSWER 39 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Interpreting the results of regional single-breath studies from the patient's point of view.
- L67 ANSWER 40 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Alterations of **CO2** production during nonfasting isotopic **CO2 breath** tests: Concise communication.
- L67 ANSWER 41 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Interval sampling of **breath** hydrogen (H2) as an index of lactose malabsorption in lactase-deficient subjects.
- L67 ANSWER 42 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Infrared **breath** alcohol **analysis** following inhalation of **gasoline** fumes.
- L67 ANSWER 43 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI [A method for the determination of **breath** alcohol with the multifract **gas** chromatograph].
EINE METHODE ZUR ATEMALKOHOLBESTIMMUNG MIT HILFE DES GASCHROMATOGRAPHEN MULTIFRACT.

- L67 ANSWER 44 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
 TI Collection of **breath** for hydrogen **estimation**.
- L67 ANSWER 45 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
 TI The precision and accuracy of a **gas** chromatograph
 intoximeter **breath** alcohol device part II - in-vivo
 experiments.
- L67 ANSWER 46 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
 TI The precision and accuracy of a **gas** chromatograph
 intoximeter **breath** alcohol device part I - in-vitro
 experiments.
- L67 ANSWER 47 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
 TI [The use of tests based on **breath analysis** for
 nutritional studies].
 EL USO DE PRUEBAS BASADAS EN EL ANALISIS DEL AIRE ESPIRADO, EN
 ESTUDIOS NUTRICIONALES.
- L67 ANSWER 48 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
 TI The use of relative time programming in a **gas**
 chromatograph **breath analyser**.
- L67 ANSWER 49 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
 TI Indirect determination of ethanol in the blood by **breath**
analysis (Czech).

=> d his 168-

L68 1401914 S 0140/CT
 L69 234741 S 0930/CT
 L70 15 S L67 AND L69
 L71 27 S L67 AND L68
 L72 0 S L59 AND L61
 L73 2234 S RESPIRATOR
 L74 0 S L61 AND L73
 L75 2 S L67 AND PRESSURE
 L76 38 S L70 OR L71
 L77 19 S (NITRIC()OXIDE OR NO OR CARBON()DIOXIDE OR CO2) AND L76
 L78 20 S L75 OR L77
 L79 20 S L78 NOT L66

=> d 179 1-20 all

L79 ANSWER 1 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
 AN 97301232 EMBASE
 TI Possible antioxidant effect of vitamin A supplementation in
 premature infants.
 AU Schwarz K.B.; Cox J.M.; Sharma S.; Clement L.; Humphrey J.; Gleason
 C.; Abbey H.; Sehnert S.S.; Risby T.H.
 CS Dr. K.B. Schwarz, Brady 320, 600 North Wolfe Street, Baltimore, MD
 21287-2631, United States
 SO Journal of Pediatric Gastroenterology and Nutrition, (1997) 25/4
 (408-414).
 Refs: 27
 ISSN: 0277-2116 CODEN: JPGND6
 Choon Koh STIC/LIBRARY 308-4133

CY United States
 DT Journal
 FS 007 Pediatrics and Pediatric Surgery
 037 Drug Literature Index
 LA English
 SL English
 AB Background: Increased lipid peroxidation caused by oxygen free radicals is thought to be one of the common pathogenetic mechanisms for the so-called oxygen radical diseases of pre-maturity. Since in vitro studies have shown that various forms of vitamin A can exert antioxidant effects that are more potent than those of vitamin E (treatment with which has been ineffective in these diseases), the purpose of this prospective, controlled study was to determine whether administration of supplemental vitamin A to premature infants deficient in this vitamin would have an antioxidant effect in vivo. Methods: Fourteen infants (1181 \pm 35 g; gestational age 29 \pm 0.04 weeks) with a serum retinol concentration at 7 \pm 2 days of age in the deficient range, lower than 0.7 μ mol/l (<20 μ g/dl), were enrolled in the study. Infants were randomized to receive the standard amount of vitamin A or standard plus supplemental (2.6 μ mol/l [2500 IU] orally each day) vitamin A, beginning at 1 week of age. Antioxidant effects of supplementation were assessed by a decrease in lipid peroxidation, quantified by the ethane content of expired air. Results: Three weeks after study enrollment, total daily vitamin A intake in the infants receiving supplements was 4.565 \pm 0.236 μ mol (4354 \pm 225 IU) versus 1.879 \pm 0.317 μ mol/l (1792 \pm 302 IU) in infants receiving standard amounts of the vitamin. In spite of the difference in intake of vitamin A, 3 weeks after study enrollment, serum retinol concentrations did not differ between the infants given supplements and those receiving standard amounts of vitamin A, 0.70 \pm 0.21 versus 0.66 \pm 0.07 μ mol/l (20 \pm 6 μ g/dl versus 19 \pm 2 μ g/dl, respectively). In the infants receiving supplemental vitamin A, breath ethane values declined from baseline values. There was an inverse correlation between the number of weeks of supplementation and breath ethane values, whereas there was no significant correlation between the duration of the study and breath ethane values in the infants not given supplements. Conclusions: Our data suggest that supplementation with vitamin A in a small group of vitamin A-deficient preterm infants was associated with an antioxidant effect. Although no immediate clinical benefits were associated with supplementation, the data provide the rationale for future investigations of possible antioxidant effects of (larger amounts) of vitamin A in higher risk premature infants born with subnormal serum retinol concentrations.

CT EMTAGS: therapy (0160); methodology (0130); diagnosis (0140); mammal (0738); human (0888); clinical article (0152); newborn (0013); infant (0014); child (0022); oral drug administration (0181); intravenous drug administration (0182); article (0060); priority journal (0007)
 Medical Descriptors:
 *prematurity: TH, therapy
 *antioxidant activity
 *vitamin intake
 *enteric feeding
 *parenteral nutrition
 clinical protocol

diet supplementation
 lipid peroxidation
 vitamin blood level
 treatment outcome
breath analysis
 oxidative stress
 human
 clinical article
 newborn
 infant
 oral drug administration
 intravenous drug administration
 article
 priority journal
 Drug Descriptors:
 *retinol: CR, drug concentration
 *retinol: DO, drug dose
 *alpha tocopherol: CR, drug concentration
 *alpha tocopherol: DO, drug dose
 *antioxidant: CR, drug concentration
 *antioxidant: DO, drug dose
 RN (retinol) 68-26-8; (alpha tocopherol) 1406-18-4, 1406-70-8,
 52225-20-4, 58-95-7, 59-02-9
 CN Aquasol e

L79 ANSWER 2 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
 AN 97292597 EMBASE
 TI Measuring energy costs of leisure activity in adolescents using a
CO2 breath test.
 AU Horswill C.A.; Zipf W.B.; Kien C.L.
 CS Dr. C.L. Kien, W209, Children's Hospital, 700 Children's Drive,
 Columbus, OH 43205, United States
 SO Medicine and Science in Sports and Exercise, (1997) 29/9
 (1263-1268).
 Refs: 26
 ISSN: 0195-9131 CODEN: MSCSBJ
 CY United States
 DT Journal
 FS 002 Physiology
 019 Rehabilitation and Physical Medicine
 037 Drug Literature Index
 LA English
 SL English
 AB To determine whether a ¹³C-bicarbonate, isotope dilution technique
 could be used to estimate relative changes in energy expenditure of
 leisure activities of short duration, we studied eight adolescents
 who performed the following activities: watching television (120
 min); playing a stringed instrument (60 min plus 60 min of sitting);
 and walking plus rest during two approximately isocaloric sessions
 (slow walk at 40% of peak V.ovrhdot.O2 for 43 min plus 77 min of
 sitting; fast walk at 73% of peak V.ovrhdot.O2 for 22 min plus 98
 min of sitting). The rate of appearance of CO2 (RaCO2) was
 determined from the ratio of the oral dose of ¹³C-bicarbonate and
 the isotopic enrichment of **breath CO2**. The net
 rates of excretion of CO2 (V.ovrhdot.CO2) and
 oxygen consumption were measured. V.ovrhdot.CO2 and RaCO2
 were correlated (r = 0.93; P < 0.05). To adjust for the systematic

difference in CO₂ production between methods, determinations were expressed as a fraction of that during television viewing. For RaCO₂, the ratios for instrument playing, walking at 40% peak V.ovrhdot.CO₂, and walking at 73% peak V.ovrhdot.O₂ were respectively 133 .+- . 20%, 186 .+- . 38%, and 206 .+- . 34%; for V.ovrhdot.CO₂, the respective ratios were 129 .+- . 19, 210 .+- . 50, and 232 .+- . 39 (P > 0.05 for methods and interaction, two- way ANOVA). RaCO₂ may be a useful method for detecting relative differences in energy expenditure associated with leisure activities of brief duration.

CT EMTAGS: diagnosis (0140); apparatus, equipment and supplies (0510); methodology (0130); mammal (0738); human (0888); male (0041); female (0042); human experiment (0104); normal human (0800); adolescent (0017); oral drug administration (0181); article (0060)

Medical Descriptors:

*energy expenditure

*leisure

*carbon dioxide breathing

*breath analysis

isotope dilution assay

television

play

walking

sitting

rest

oxygen consumption

exercise

clinical protocol

human

male

female

human experiment

normal human

clinical trial

adolescent

oral drug administration

article

Drug Descriptors:

*carbon dioxide

carbon 13

bicarbonate

RN (carbon dioxide) 124-38-9, 58561-67-4; (carbon 13) 14762-74-4; (bicarbonate) 144-55-8, 71-52-3

CO Cambridge isotope (United States)

L79 ANSWER 3 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.

AN 97020942 EMBASE

TI Selected ion flow tube: A technique for **quantitative trace gas analysis** of air and **breath**.

AU Spanel P.; Smith D.

CS P. Spanel, Dept Biomed Engineering Med Physics, Hospital Centre, University of Keele, Thornburrow Drive, Stoke-on-Trent ST4 7QB, United Kingdom

SO Medical and Biological Engineering and Computing, (1996) 34/6 (409-419).

Refs: 30

ISSN: 0140-0118 CODEN: MBECDY
 CY United Kingdom
 DT Journal
 FS 027 Biophysics, Bioengineering and Medical Instrumentation
 LA English
 SL English
 AB The selected ion flow tube (SIFT) technique for trace **gas analysis** of air and **breath** is based on soft chemical ionisation of the trace gases to the exclusion of the major air and **breath gases**, in fast-flowing inert carrier gas, exploiting the ion-molecule reactions that occur between the trace gases and the pre selected precursor ions (H3O+, NO+ and O2+). The physics and ion chemistry involved in the SIFT technique are described, as are the kinetics of the ion-molecule reactions that are exploited to quantitatively analyse the trace gases. Fast on-line data-acquisition hardware and software have been developed to analyse the mass spectra obtained, from which partial **pressures** of the trace gases down to about 10 parts per billion can be measured. The time response of the instrument is 20 ms, allowing the profiles of the trace **gas** concentrations on **breath** to be obtained during a normal breathing cycle. Pilot results obtained with this SIFT technique include **detection** and **quantification** of the most abundant **breath** trace **gases**, **analysis** of cigarette smoke, **detection** of **gases** present on smokers' **breath** and accurate **measurement** of the partial **pressures** of NH3, NO and NO2 in air. The simultaneous **analysis** of several **breath** trace **gases** during a single exhalation is clearly demonstrated, and thus different elution times for isoprene and methanol along the respiratory tract are observed. This technique has great potential in many clinical and biological disciplines, and in health and safety monitoring.

CT EMTAGS: diagnosis (0140); methodology (0130); apparatus, equipment and supplies (0510); automation, computers and data processing (0530); mammal (0738); human (0888); review (0001)
 Medical Descriptors:
 ***breath analysis**
 *gas analysis
 *air analysis
 biological monitoring
 technique
 medical instrumentation
 mass spectrometry
 computer
 computer program
pressure
 human
 review
 Drug Descriptors:
 cigarette smoke
 nitrogen
 isoprene
 methanol

TI The selected ion flow tube (SIFT) - A novel technique for biological monitoring.
 AU Spanel P.; Rolfe P.; Rajan B.; Smith D.
 CS United Kingdom
 SO Annals of Occupational Hygiene, (1996) 40/6 (615-626).
 ISSN: 0003-4878 CODEN: AOHYA3
 PUI S 0003-4878(96)00028-2
 CY United Kingdom
 DT Journal
 FS 017 Public Health, Social Medicine and Epidemiology
 035 Occupational Health and Industrial Medicine
 LA English
 SL English
 AB We describe the use of our selected ion flow tube (SIFT) technique for the rapid detection and quantification of trace gases in atmospheric air, with special reference to the **analysis** of human **breath**. It is based on the chemical ionization of the **breath** trace **gases** to the exclusion of the major **breath** **gases**, using 'soft' proton transfer from H30+ ions. Breath samples can either be introduced into the SIFT from bags or by direct breathing into the apparatus, the advantage of the latter approach being that surface active gases such as ammonia and many organic vapours which adsorb onto bag surfaces can be more accurately quantified. We present examples of the **analysis** of laboratory air, the **breath** of a non-smoker and of a smoker taken from bag samples, and illustrate the rapid time response of the technique by showing the time profile of acetone on breath during direct breathing into the apparatus. The current partial **pressure** sensitivity of our SIFT method is within the range 30 ppb to in excess of 100 ppm, but with further development the device could be made more sensitive, 1 ppb being well within reach. A transportable SIFT device is under development which will have applications in environmental, medical and biological research, health and safety monitoring, and in clinical diagnosis.
 CT EMTAGS: diagnosis (0140); methodology (0130); mammal (0738); human (0888); article (0060); priority journal (0007)
 Medical Descriptors:
 *air sampling
 ***breath analysis**
 *occupational health
 *biological monitoring
 *occupational exposure
 ambient air
 ionization
 proton transport
 gas
 adsorption
 smoking
 time
pressure
 technique
 human
 article
 priority journal
 Drug Descriptors:
 ammonia

acetone
volatile organic compound

L79 ANSWER 5 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
 AN 96319890 EMBASE
 TI Origins of **breath nitric oxide** in humans.
 AU Dillon W.C.; Hampl V.; Shultz P.J.; Rubins J.B.; Archer S.L.
 CS Minneapolis VA Medical Center, 1 Veterans Drive, Minneapolis, MN 55417, United States
 SO Chest, (1996) 110/4 (930-938).
 ISSN: 0012-3692 CODEN: CHETBF
 CY United States
 DT Journal
 FS 005 General Pathology and Pathological Anatomy
 015 Chest Diseases, Thoracic Surgery and Tuberculosis
 037 Drug Literature Index
 LA English
 SL English
 AB Study objectives: **Nitric oxide (NO)** exists in the human **breath**, but little is known about its site of origin or enzyme source. The aims of this study were to locate the main site of **NO** release into human **breath** and to decide whether the inducible isoform of **NO** synthase (iNOS) and nasal bacteria contribute to **breath NO**. Design: Using a chemiluminescence assay, **NO** levels were measured in air exhaled from the nose, mouth, trachea, and distal airway. The susceptibility of **breath NO** to treatment with a topical corticosteroid (to inhibit iNOS; intranasal beclomethasone dipropionate for 2 weeks) and with antibiotics (systemic amoxicillin plus clavulanic acid and intranasal bacitracin zinc, 5 to 10 days) was also tested. Participants: Twenty-one healthy subjects, 9 intubated patients, and 7 patients undergoing bronchoscopy. All subjects were nonsmokers free of pneumonia, rhinitis, and bronchitis. Measurements and results: **Breath NO** levels, collected in the gas sampling bags, were greater ($p < 0.05$) in the nose (25 \pm 2 parts per billion [ppb]) than in the mouth (6 \pm 1 ppb), trachea (3 \pm 1 ppb), or distal airway (1 \pm 2 ppb). Similar results were obtained when **NO** was sampled directly by cannula from nose or mouth during resting breathing. Nasal **breath NO** signal increased sharply during 30 s of breath-holding. Beclomethasone, but not antibiotics, decreased nasal **NO** levels without changing oral **breath NO**. Conclusions: Most **NO** in normal human **breath** derives locally from the nose where it can reach high levels during **breath-holding**. **NO** is synthesized, at least in part, by a steroid-inhibitable, nonbacterial, **NO** synthase, presumably iNOS.
 CT EMTAGS: diagnosis (0140); microorganism (0724); methodology (0130); mammal (0738); human (0888); male (0041); female (0042); human experiment (0104); normal human (0800); aged (0019); adult (0018); oral drug administration (0181); topical drug administration (0186); intranasal drug administration (0283); article (0060); priority journal (0007); enzyme (0990)
 Medical Descriptors:

***breath analysis**
 *nose breathing
 *mouth breathing
 expired air
 breath holding
 bronchoscopy
 endotracheal intubation
 bacterial flora
 chemoluminescence
 clinical protocol
 human
 male
 female
 human experiment
 normal human
 aged
 adult
 oral drug administration
 topical drug administration
 intranasal drug administration
 article
 priority journal
 Drug Descriptors:
 ***nitric oxide: EC, endogenous compound**
nitric oxide synthase: EC, endogenous compound
 corticosteroid
 beclometasone dipropionate
 antibiotic agent
 amoxicillin plus clavulanic acid
 bacitracin zinc
 ointment

RN 10102-43-9; 125978-95-2; 5534-09-8; 74469-00-4; 1405-89-6
 CN (1) Augmentin
 CO (1) Smith kline beecham (United States); Schering (United States)

L79 ANSWER 6 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
 AN 95313866 EMBASE
 TI Determination of isoprene in human **breath** by thermal
 desorption **gas** chromatography with ultraviolet
detection.
 AU Jones A.W.; Lagesson V.; Tagesson C.
 CS Department Forensic Toxicology, Ntl Laboratory Forensic Medicine,
 University Hospital, 581 85 Linkoping, Sweden
 SO Journal of Chromatography B: Biomedical Applications, (1995) 672/1
 (1-6).
 ISSN: 0378-4347 CODEN: JCBBEP
 CY Netherlands
 DT Journal
 FS 029 Clinical Biochemistry
 LA English
 SL English
 AB We describe a new, highly sensitive and specific method for the
analysis of isoprene (2-methyl-1,3-butadiene) in human
breath. A known volume of expired air (150 ml) was drawn
 through a solid sorbent material to capture trace organic
 substances, followed by thermal desorption at 200.degree.C and
 subsequent determination of isoprene by gas chromatography with
 Choon Koh STIC/LIBRARY 308-4133

diode-array ultraviolet detection. The calibration plot was linear ($r = 0.99$) over a wide range of breath isoprene concentrations (0-12 nmol/l), and levels down to 0.10 nmol/l, were easily measurable. In sixteen healthy subjects (six men and ten women), all of whom were non-smokers, the mean, median and spread of breath isoprene concentrations were 3.73, 3.36 and 1.60-10.33 nmol/l, respectively. No statistically significant differences in the concentrations of breath isoprene were observed between the sexes. The mean (\pm S.D.) concentration of breath isoprene in nine consecutive tests with the same subject was 3.69 \pm 0.60 nmol/l, and the coefficient of variation was 16.3%. Much larger variations in exhaled isoprene were seen during the day and also between days when the same subject was tested repeatedly. The excretion patterns of isoprene in human breath can be investigated with high selectivity and sensitivity with this new analytical method.

CT EMTAGS: diagnosis (0140); methodology (0130); mammal (0738); human (0888); controlled study (0197); normal human (0800); human tissue, cells or cell components (0111); priority journal (0007); article (0060)
 Medical Descriptors:
 *breath analysis
 gas chromatography
 ultraviolet spectrophotometry
 methodology
 human
 controlled study
 normal human
 human tissue
 priority journal
 article
 Drug Descriptors:
 *isoprene: EC, endogenous compound

RN 78-79-5

L79 ANSWER 7 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
 AN 94293423 EMBASE
 TI Carbohydrate malabsorption: **Quantification** by methane and hydrogen **breath** tests.
 AU Rumessen J.J.; Nordgaard-Andersen I.; Gudmand-Hoyer E.
 CS Department of Gastroenterology 261, Hvidovre Hospital, University of Copenhagen, Kettegaard Alle 30, DK-2650 Hvidovre, Denmark
 SO SCAND. J. GASTROENTEROL., (1994) 29/9 (826-832).
 ISSN: 0036-5521 CODEN: SJGRA4
 CY Norway
 DT Journal
 FS 006 Internal Medicine
 029 Clinical Biochemistry
 048 Gastroenterology
 037 Drug Literature Index
 LA English
 SL English
 AB Background: Previous studies in small series of healthy adults have suggested that parallel measurement of hydrogen and methane resulting from gut fermentation may improve the precision of quantitative estimates of carbohydrate malabsorption. Systematic, controlled studies of the role of simultaneous hydrogen and methane **measurements** using end-expiratory **breath** test

techniques are not available. Methods: We studied seven healthy, adult methane and hydrogen producers and seven methane non-producers by means of end-expiratory **breath test** techniques.

Breath gas concentrations and **gastrointestinal** symptoms were recorded at intervals for 12 h after ingestion of 10, 20, and 30 g lactulose. Results: In the seven methane producers the excretion pattern was highly variable; the integrated methane responses were disproportional and not reliably reproducible. However, quantitative estimates of carbohydrate malabsorption on the basis of individual areas under the methane and hydrogen excretion curves (AUCs) tended to improve in methane producers after ingestion of 20 g lactulose by simple addition of AUCs of methane to the AUCs of the hydrogen curves. Estimates were **no** more precise in methane producers than similar estimates in non-producers. Gastrointestinal symptoms increased significantly with increasing lactulose dose; correlation with total hydrogen and methane excretion was weak. Conclusions: Our study suggests that in methane producers, simple addition of methane and hydrogen excretion improves the precision of semiquantitative measurements of carbohydrate malabsorption. The status of methane production should, therefore, be known to interpret breath tests semiquantitatively. The weak correlation between hydrogen and methane excretion and gas-related abdominal complaints suggests that other factors than net production of these gases may be responsible for the symptoms.

CT EMTAGS: diagnosis (0140); methodology (0130); mammal (0738); human (0888); controlled study (0197); normal human (0800); male (0041); female (0042); adult (0018); oral drug administration (0181); priority journal (0007); article (0060)

Medical Descriptors:

*carbohydrate intolerance: DI, diagnosis

breath analysis

technique

human

controlled study

normal human

male

female

adult

oral drug administration

priority journal

article

Drug Descriptors:

*hydrogen: EC, endogenous compound

*methane: EC, endogenous compound

*lactulose: PD, pharmacology

RN 1333-74-0; 12385-13-6; 74-82-8; 4618-18-2

CO Sad (Denmark)

L79 ANSWER 8 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.

AN 92219363 EMBASE

TI Anaerobic threshold detection in patients with congestive heart failure.

AU Katz S.D.; Berkowitz R.; LeJemtel T.H.

CS Division of Cardiology, Montefiore Medical Center, 111 East 210 Street, Bronx, NY 10467, United States

SO AM. J. CARDIOL., (1992) 69/19 (1565-1569).

Choon Koh STIC/LIBRARY 308-4133

Page 74

ISSN: 0002-9149 CODEN: AJCDAG
 CY United States
 DT Journal
 FS 006 Internal Medicine
 018 Cardiovascular Diseases and Cardiovascular Surgery
 LA English
 SL English
 AB Anaerobic threshold measurements determined either invasively by analysis of arterial lactate concentration (lactate threshold) or noninvasively by respiratory gas exchange analysis (ventilatory threshold) were compared in patients with chronic congestive heart failure. Sixteen patients performed symptom-limited maximal exercise on a bicycle ergometer using a continuous ramp protocol with measurement of arterial lactate concentration at 1 minute intervals, and continuous **breath-by-breath analysis** of respiratory **gas** exchange. A specific lactate threshold point was detected in only 7 patients. These 7 patients had significantly greater peak oxygen uptake than did the 9 in whom no specific lactate threshold point was detected (15.9 \pm 1.0 vs 10.5 \pm 0.5 ml/kg/min; $p < 0.05$). Ventilatory threshold significantly correlated with lactate threshold in these 7 patients. In the remaining 9 patients, neither lactate nor ventilatory threshold could be reliably determined with methods used in the present study.
 CT EMTAGS: methodology (0130); automation, computers and data processing (0530); diagnosis (0140); mammal (0738); human (0888); male (0041); female (0042); clinical article (0152); aged (0019); adult (0018); priority journal (0007); article (0060)
 Medical Descriptors:
 *congestive heart failure
 *lung gas exchange
 *oxygen consumption
 maximum allowable concentration
 lactate blood level
 bicycle ergometry
 intermethod comparison
 data analysis
 lung ventilation perfusion ratio
breath analysis
 human
 male
 female
 clinical article
 aged
 adult
 priority journal
 article
 L79 ANSWER 9 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
 AN 92175569 EMBASE
 TI Diethyl ether interference with infrared **breath analysis**.
 AU Bell C.M.; Gutowski S.J.; Young S.; Wells D.
 CS State Forensic Science Laboratory, Forensic Drive, Macleod, Vic. 3085; Australia
 SO J. ANAL. TOXICOL., (1992) 16/3 (166-168).
 ISSN: 0146-4760 CODEN: JATOD3
 Choon Koh STIC/LIBRARY 308-4133

CY United States
 DT Journal
 FS 049 Forensic Science Abstracts
 052 Toxicology
 LA English
 SL English
 AB Diethyl ether vapor may substantially interfere with **breath**
 alcohol **analysis** by instruments based on infrared
 absorption at 9.5 μm . Exposure of two volunteers simultaneously
 to diethyl ether vapor for one hour followed immediately by breath
 tests on the Draeger Alcotest 7110, Siemens Alcomat V5.2F, and Sers
 Ethylometre 679T produced apparent alcohol readings in one subject
 of 0.4, 0.1, and 0.1 g/100 mL of blood, respectively. Positive
 readings persisted in this subject for more than 3 hours. The second
 subject produced much lower readings of 0.03, 0.01, and 0.00,
 respectively. Readings persisted with the Alcotest 7110 for one
 hour. **Gas chromatographic analyses** of blood and
breath samples confirmed that these readings were caused by
 diethyl ether and not ethanol. The blood concentration of diethyl
 ether in Subject A immediately after exposure was 25 mg/L. This
 level produced no clinically detectable neurological
 changes in the subject.
 CT EMTAGS: diagnosis (0140); apparatus, equipment and
 supplies (0510); etiology (0135); methodology (0130);
 mammal (0738); human (0888); male (0041); human experiment (0104);
 priority journal (0007); article (0060)
 Medical Descriptors:
 ***breath analysis**
 vapor
 equipment
 blood analysis
 gas chromatography
 psychomotor disorder: ET, etiology
 methodology
 human
 male
 human experiment
 priority journal
 article
 Drug Descriptors:
 *ether
 *alcohol
 RN 60-29-7; 64-17-5
 L79 ANSWER 10 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
 AN 90075605 EMBASE
 TI A model-based evaluation of the single-**breath CO2**
 ventilatory response test.
 AU Khoo M.C.K.
 CS Biomedical Engineering Department, University of Southern
 California, Los Angeles, CA 90089, United States
 SO J. APPL. PHYSIOL., (1990) 68/1 (393-399).
 ISSN: 0161-7567 CODEN: JAPHEV
 CY United States
 DT Journal
 FS 002 Physiology
 027 Biophysics, Bioengineering and Medical Instrumentation
 Choon Koh STIC/LIBRARY 308-4133

LA English
 AB The accuracy of the single-breath CO₂ inhalation test as a method for determining peripheral chemoreflex gain (G(p)) is evaluated through computer simulations using a mathematical model of the closed-loop respiratory control system. Estimates of G(p) (G(p)') are based on 'corrected' changes in end-tidal PCO₂, because the uncorrected end-tidal values do not accurately reflect changes in alveolar PCO₂. The influence of the central chemoreflex on G(p)' is generally <10% but can become disproportionally more significant as the relative contribution of the peripheral chemoreflex diminishes. G(p)' tends to overestimate G(p) with the inclusion of peripheral chemoreceptor rate sensitivity, but this effect is offset by the time constant for adaptation. The spontaneous variability of breathing can seriously impair the resolution of G(p). Averaging of G(p)' deduced from individual single-breath tests can lead to erroneous estimates of G(p) even when a large number of repetitions are performed. This problem can be minimized by first ensemble averaging the data from individual single-breath tests and, then, computing G(p)' from the resulting mean changes.

CT EMTAGS: nonbiological model (0503); nonhuman (0777); methodology (0130); article (0060); priority journal (0007); respiratory system (0930)
 Medical Descriptors:
 *breath analysis
 *measurement
 *model
 *mathematics
 *carbon dioxide
 *gas exchange
 nonbiological model
 *lung ventilation

RN 124-38-9; 58561-67-4

L79 ANSWER 11 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
 AN 89233018 EMBASE
 TI Diagnostic value of breath tests in gastroenterology.
 AU Sciarretta G.
 CS Service of Gastroenterology and Digestive Endoscopy, Maggiore Hospital Bologna, Italy
 SO J. CLIN. NUTR. GASTROENTEROL., (1989) 4/1 (28-37).
 CODEN: JCNGEW
 CY Spain
 DT Journal
 FS 048 Gastroenterology
 LA English
 CT EMTAGS: respiratory system (0930); radioisotope (0131); review (0001); human (0888); methodology (0130)
 Medical Descriptors:
 *breath analysis
 *hydrogen breath test
 *carbon dioxide breathing
 radioisotope

L79 ANSWER 12 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
 AN 88118236 EMBASE
 TI Invasive and noninvasive measurement of the respiratory deadspace in
 Choon Koh STIC/LIBRARY 308-4133

anesthetized children with cardiac disease.

AU Fletcher R.
 CS Department of Anesthesiology, University Hospital, Lund, Sweden
 SO ANESTH. ANALG., (1988) 67/5 (442-447).
 ISSN: 0003-2999 CODEN: AACRAT
 CY United States
 DT Journal
 FS 007 Pediatrics and Pediatric Surgery
 018 Cardiovascular Diseases and Cardiovascular Surgery
 024 Anesthesiology
 LA English
 AB To compare the magnitude of the different 'invasive' and 'noninvasive' dead space variables and the effect on them of ventilator setting, **CO2** single **breath** tests (SBT-**CO2**) were obtained using an on-line computerized system based on the Servo ventilator and **CO2** Analyzer 930, in 50 children anesthetized for cardiac surgery. The variables were the airway deadspace (V(D)aw), Bohr's deadspace (V(D)Bohr) obtained noninvasively using end-tidal PCO2 (PET(**CO2**)) for alveolar PCO2 in the deadspace equation, and the physiologic deadspace, V(D)phys. In 42 children with normal single breath tests, V(D)aw was two-thirds of V(D)Bohr; in 9 children in whom phase III of SBT-**CO2** (the 'alveolar plateau') was steeper than normal, it was only half of V(D)Bohr. Steeper slopes of phase III were seen particularly in the presence of left-right (LR) shunting. V(D)phys was very similar in magnitude to V(D)Bohr in all children, except those with right-left (RL) shunts. V(D)aw was the major component of V(D)phys only in children with normal arterial-end-tidal PCO2 differences i.e., those without RL shunts. When two ventilator frequencies giving the same alveolar ventilation were compared in children with normal gas exchange, V(D)Bohr as a fraction of tidal volume was least at the lower frequency, as it also is in adults. The data confirm that noninvasive **CO2** monitoring and measurement of deadspace gives useful indexes of the adequacy of ventilation in all children except those with RL shunts.

CT EMTAGS: infant (0014); child (0022); age (0020); heart (0921); priority journal (0007); human (0888); methodology (0130); apparatus, equipment and supplies (0510); clinical article (0152); respiratory system (0930)
 Medical Descriptors:
 infant
 child
 age
 heart disease
breath analysis
 *lung dead space
 *tidal volume

L79 ANSWER 13 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
 AN 87041931 EMBASE
 TI Drug-alcohol flush reaction and **breath** acetaldehyde concentration: No interference with an infrared **breath** alcohol analyzer.
 AU Jones A.W.
 CS Department of Alcohol and Drug Addiction Research, Karolinska Institutet, S-104 01 Stockholm, Sweden
 SO J. ANAL. TOXICOL., (1986) 10/3 (98-101).

CODEN: JATOD3

CY United States

LA English

AB Human volunteers were given a small dose of ethanol (0.25 g/kg body weight) after pretreatment with either calcium carbimide (50 mg) or a placebo according to a crossover design. Calcium carbimide, an inhibitor of aldehyde dehydrogenase, caused intense facial flushing and a pronounced rise in the concentration of acetaldehyde in breath. At 15-min intervals throughout the experiment, breath-ethanol concentrations were determined both by gas chromatography (GC) (specific method) and by infrared (IR) spectrometry with an Intoxilyzer model 4011 **breath-alcohol analyzer**. The results with these two independent methods of analysis were compared in experiments with and without calcium carbimide pretreatment. The regression equations relating breath-ethanol determinations by GC and IR methods in the two test situations were not significantly different. The elevated breath concentrations of acetaldehyde associated with a drug-alcohol flush reaction do not invalidate the use of infrared breath-alcohol devices for evidential purposes.

CC 032.18.00.00.00.

037.04.03.00.00. Drug Literature Index/CENTRAL DEPRESSANTS AND STIMULANTS/Central stimulants

037.34.02.00.00. /ENZYMES, COENZYMES, INHIBITORS AND SUBSTRATES/Enzyme inhibitors

037.37.00.00.00. /DRUGS FOR TREATMENT OF ADDICTION

037.38.00.00.00. /PLACEBOS

040.02.03.00.00.

040.04.03.00.00.

052.02.02.00.00.

052.03.00.00.00.

052.11.05.01.00.

052.11.07.00.00.

052.15.06.00.00.

CT EMTAGS: priority journal (0007); drug monitoring (0199); adverse drug reaction (0198); oral drug administration (0181); human experiment (0104); methodology (0130); chemical procedures (0107); human (0888); normal human (0800); respiratory system (0930); peripheral vascular system (0923); skin, hair, nails and sweat glands (0980)

Medical Descriptors:

- *drug tissue level
- *drug mechanism
- *drug monitoring
- *adverse drug reaction
- *gas chromatography
- *infrared spectrometry
- *calcium carbimide
- *ethanol
- *flushing
- *drug interaction
- *acetaldehyde
- *drug breath level
- *placebo

breath analysis

infrared spectroscopy

L79 ANSWER 14 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
 AN 86104329 EMBASE
 TI [Methodological aspects of the hydrogen (H2) breath test].
 METHODISCHE ASPEKTE ZUR ANWENDUNG DES WASSERSTOFF (H2)-ATEMTESTES.
 AU Breuer N.; Ptok A.; Gotze H.; Goebell H.
 CS Abt. fur Gastroenterologie, Med. Klinik und Poliklinik der Univ.
 Essen, D-4300 Essen 1, Germany, Federal Republic of
 SO Z. GASTROENTEROL., (1986) 24/2 (80-84).
 CODEN: ZGASAX
 CY Germany, Federal Republic of
 LA German
 SL English
 AB Normalization of the breath hydrogen (H2) concentration by
 simultaneous determination of **breath carbon**
dioxide (CO2) and the addition of lactulose to a
 liquid meal have been recommended to improve the reproducibility of
 the hydrogen breath test. To assess the clinical relevance of these
 recommendations, we studied 64 children of 4 different age groups
 and 12 adults. Simultaneous determination of **CO2**
 concentration and normalization of **breath H2** resulted in a
 marked decrease of intestinal transit time and its variation in
 children; in adults, however, this correction was negligible. With
 lactulose alone, the mean coefficient of variation within
 individuals was only 11.7% and 13.2%, with and without H2
 normalization, respectively. Therefore, the addition of a liquid
 meal does not seem to be necessary.
 CC 006.02.04.00.00.
 006.12.03.00.00.
 029.02.15.00.00.
 029.03.03.00.00.
 048.03.01.00.00.
 048.04.02.00.00.
 CT EMTAGS: priority journal (0007); normal value (0120); major clinical
 study (0150); methodology (0130); diagnosis (0140
); human (0888); digestive system (0935)
 Medical Descriptors:
 *hydrogen breath test
 ***breath analysis**
 ***carbon dioxide**
 *intestine absorption
 methodology
 lactulose
 liquid meal

L79 ANSWER 15 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
 AN 85200636 EMBASE
 TI Evidential breath testing of drivers - Day surgery and halothane
 anaesthesia.
 AU Dunbar J.A.; Macrae W.A.; Murphie J.H.; et al.
 CS Tayside Safe Driving Project, Department of Forensic Medicine,
 University of Dundee Royal Infirmary, Dundee DD1 9ND, United Kingdom
 SO MED. SCI. LAW, (1985) 25/3 (162-164).
 CODEN: MDSLA6
 CY United Kingdom
 LA English
 AB Recent criticisms of **breath analysis** for alcohol
 make the following case of interest. In this instance, the driver

claimed that he could not possibly have consumed enough alcohol to be over the legal limit and that the reading must have been due to halothane administered for surgery earlier that day. The case highlights the problem of substances which absorb at the same operational wavelength as alcohol. Halothane is one such substance, but experimental testing demonstrated that clinical concentrations are too low to affect the Camic **breath analyser** and there is no interaction between ethanol and halothane in **breath analysis**.

- CC 017.01.04.00.00.
 017.01.05.00.00.
 017.01.10.02.00.
 017.02.04.00.00.
 024.06.15.00.00.
 029.02.14.00.00.
 030.04.01.00.00.
 030.32.00.00.00.
 030.34.00.00.00.
 032.16.01.00.00.
 035.10.03.02.00.
 035.10.10.00.00.
 037.03.05.00.00. Drug Literature Index/PSYCHOTROPIC
 DRUGS/Tranquilizers
 037.04.03.00.00. /CENTRAL DEPRESSANTS AND STIMULANTS/Central
 stimulants
 037.06.01.00.00. /ANESTHETICS/General anesthetics
 049.16.01.00.00.
 049.28.05.00.00.
 049.37.00.00.00.
 052.03.03.00.00.
 052.11.05.01.00.
 052.11.07.00.00.
- CT EMTAGS: priority journal (0007); drug analysis (0190); inhalational
 drug administration (0188); intravenous drug administration (0182);
 oral drug administration (0181); human experiment (0104);
 methodology (0130); chemical procedures (0107); diagnosis
 (0140); therapy (0160); human (0888)
 Medical Descriptors:
 *drug determination
 *drug elimination
 *drug interaction
 *infrared spectrometry
 *alcohol
 *breath analysis
 *halothane
 *driver
 *halothane anesthesia
 interference
 lorazepam
 methohexital
- CO May and baker
- L79 ANSWER 16 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
 AN 85116008 EMBASE
 TI Comparison of the phenacetin and aminopyrine breath tests: Effect of
 liver disease, inducers and cobaltous chloride.
 AU Schoeller D.A.; Kotake A.N.; Lambert G.H.; et al.
 Choon Koh STIC/LIBRARY 308-4133

- CS Department of Medicine, The University of Chicago, Chicago, IL
60637, United States
- SO HEPATOLOGY, (1985) 5/2 (276-281).
CODEN: HPTLD
- CY United States
- LA English
- AB The phenacetin breath test (PBT) has been proposed as an alternative to the aminopyrine breath test (ABT) for the assessment of hepatic function. To investigate the clinical utility of the PBT, we compared the PBT with the ABT in 9 healthy subjects and 18 patients with biopsy-proven liver disease. We also investigated the effects of cytochrome P-450 inducers in humans and rats, and the effect of cobaltous chloride (CoCl₂) in rats on the PBT to elucidate the relationship between the rate of phenacetin deethylation and exhaled labeled CO₂ derived from phenacetin. In humans with abnormal ABTs, the PBT correlated with the ABT ($r = 0.77$), but in healthy humans there was no correlation between the two breath tests. Rifampin pretreatment in healthy humans induced the ABT by 27%, but did not induce the PBT. In rats the PBT was not induced by 3-methylcholanthrene pretreatment at phenacetin doses of 1 mg per kg, but was induced by both 3-methylcholanthrene (178%) and phenobarbital (142%) at 10 mg per kg phenacetin. Pretreatment of rats with CoCl₂, which reduces cytochrome P-450 content, decreased the PBT by 40% and the ABT by 84%. The insensitivity of the PBT to induction except at high doses of phenacetin suggests that phenacetin deethylation is not the rate-limiting process modulating exhaled labeled CO₂ in healthy subjects, and that the PBT does not generally reflect normal or induced phenacetin dealkylation rates. The PBT, however, did reflect hepatic damage and may even be better than the ABT for grading the severity of hepatic damage.
- CC 029.03.01.00.00.
029.06.13.00.00.
030.01.02.01.00.
030.01.06.03.00.
037.07.01.00.00. Drug Literature Index/ANALGESICS/Antipyretic analgesics
037.09.01.01.00. /HORMONES AND DRUGS AFFECTING ENDOCRINE SYSTEMS/Corticosteroids/Glucocorticoids
037.19.02.00.00. /DIAGNOSTIC AGENTS/Liver function tests
037.19.10.00.00. //Radioisotopes
037.34.01.01.00. /ENZYMES, COENZYMES, INHIBITORS AND SUBSTRATES/Enzymes and coenzymes/Enzyme inducing agents
037.34.03.00.00. //Drug metabolism
048.04.02.00.00.
048.04.05.00.00.
048.07.02.01.00.
- CT EMTAGS: priority journal (0007); drug analysis (0190); drug comparison (0196); liver (0946); intraperitoneal drug administration (0178); oral drug administration (0181); methodology (0130); chemical procedures (0107); human (0888); normal human (0800); normal value (0120); controlled study (0197); diagnosis (0140); prevention (0165); human experiment (0104); human tissue, cells or cell components (0111); animal experiment (0112); animal tissue, cells or cell components (0105)
Medical Descriptors:
*drug determination

*drug elimination
 *drug metabolism
 *drug comparison
 *drug interaction
 *liver disease
 *enzyme induction
 *cytochrome p450
 *alcohol liver disease
 *phenacetin
 *aminophenazone
 *breath analysis
 *phenacetin c 13
 *phenacetin c 14
 *aminophenazone c 13
 phenobarbital
 rifampicin
 cobalt chloride
 3 methylcholanthrene
 prednisone
 CO Merck isotopes (Canada)

L79 ANSWER 17 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
 AN 85105332 EMBASE
 TI SBT-CO2: A new method for the diagnosis of pulmonary embolism?.
 AU Eriksson L.; Wollmer P.; Jonson B.; et al.
 CS Department of Clinical Physiology, University Hospital, S-221 85 Lund, Sweden
 SO CLIN. PHYSIOL., (1985) 5/SUPPL. 3 (111-115).
 CODEN: CLPHDU
 CY United Kingdom
 LA English
 AB Pulmonary embolism (PE) poses a great clinical problem. It is a common cause of hospital morbidity and mortality, especially among surgical patients. Diagnostic tests, such as pulmonary angiography and pulmonary scintigraphy, require facilities only found in larger hospitals, and there is therefore a need for a simpler screening test suitable for smaller hospitals. The aim of this study was to assess the possibility of using the single **breath** test for CO2 (SBT-CO2) to this end.
 CC 002.06.01.00.00.
 015.01.04.03.00.
 015.18.00.00.00.
 025.10.05.00.00.
 CT EMTAGS: methodology (0130); diagnosis (0140); clinical article (0152); human (0888); cardiovascular system (0920); respiratory system (0930); peripheral vascular system (0923)
 Medical Descriptors:
 *lung embolism
 *lung angiography
 *breath analysis
 *carbon dioxide

L79 ANSWER 18 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
 AN 84124302 EMBASE
 TI 13C-Carbon dioxide breath tests in
 Choon Koh STIC/LIBRARY 308-4133

- gastroenterology.**
- AU Ghooos Y.; Rutgeerts P.; Vantrappen G.
 CS Universiteit Ziekenhuis Gasthuisberg, Leuven, Belgium
 SO TIJDSCHR. NED. VER. KLIN. CHEM., (1984) 9/1 (44-46).
 CODEN: TNVCE
- CY Netherlands
 LA Dutch
- AB CO2 testing with stable isotopes has come of age. Sample taking is simple and the tests are definitely accepted by patients. Because of working with stable isotopes, CO2 testing is also suitable for children and pregnant women. Nevertheless these tests do have some limitations, notably the costs of the testing instruments and the costs of labelled molecules.
- CC 023.06.01.00.00.
 029.02.01.00.00.
 029.07.08.00.00.
 029.07.09.00.00.
- CT EMTAGS: methodology (0130); diagnosis (0140); human (0888)
 Medical Descriptors:
 *carbon dioxide c 13
 *breath analysis
- L79 ANSWER 19 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
 AN 82105639 EMBASE
- TI **Quantitative measurements** of the alcohol concentration and the temperature of **breath** during a prolonged exhalation.
- AU Jones A.W.
 CS Dept. Alcoh. Drug Addict. Res., Karolinska, Inst., Stockholm, Sweden
 SO ACTA PHYSIOL. SCAND., (1982) 114/3 (407-412).
 CODEN: APSCAX
- CY Sweden
 LA English
- AB After healthy men drank a moderate dose of alcohol their **breath**-alcohol concentrations and **breath**-temperatures were **quantitatively** determined as a function of expired-volume. All test were made in the post-absorptive phase of ethanol metabolism and **breath** samples were **analysed** by gas-liquid chromatography. The temperatures of **breath** rose steadily from start to end of exhalation with a mean of 34.48.degree.C after a forced vital capacity (FVC) maneuver. The standard deviation of a single **measurment** of **breath**-temperature in randomly selected subjects was ± 0.40 .degree.C. No statistically increases in the temperature of breath were noted after an expired volume of 70% FVC. At average expired-breath volumes of 13.5%, 26.2%, 52.2%, 71.7% and 94.2% FVC the breath-temperatures were 33.3.degree.C, 33.5.degree.C, 33.9.degree.C, 34.1.degree.C and 34.4.degree.C whereas breath-alcohol concentration were 79.7%, 85.9%, 90.5%, 95.9% and 98.8% of the 100% FVC alcohol levels. When I corrected for the lower temperatures of breath in the early stages of expiration, the concentrations of alcohol were 86.6%, 90.8%, 93.5% and 98.5% of the 100% FVC levels. These results show that at least 70% of a man's vital capacity must be discarded before a breath-concentration plateau for ethanol develops. But even after a discard breath-volume of 10% FVC the concentration of alcohol

reaches 80% of the level in end-expiratory breath. I suspect that ethanol dissolves in the mucous-membranes of the upper respiratory tract and equilibrates with breath in the airway dead-space and in the mouth.

CC 002.01.02.00.00.
002.06.01.00.00.
015.01.06.00.00.
030.34.00.00.00.
037.04.00.00.00. Drug Literature Index/CENTRAL DEPRESSANTS AND STIMULANTS
037.26.05.00.00. /TOXIC SUBSTANCES AND PROTECTIVE AGENTS/Industrial and domestic toxic substances
037.26.06.01.00. //Drugs/Toxic effects of drug overdosage
049.29.00.00.00.
CT EMTAGS: human tissue, cells or cell components (0111); methodology (0130); normal human (0800); respiratory system (0930)
)
Medical Descriptors:
*alcohol
*breath analysis
*ethanol
*temperature
*vital capacity

L79 ANSWER 20 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
AN 81221842 EMBASE
TI Interval sampling of breath hydrogen (H₂) as an index of lactose malabsorption in lactase-deficient subjects.
AU Welsh J.D.; LaVerne Payne D.; Manion C.; et al.
CS State of Oklahoma Teach. Hosp., Oklahoma Mem. Hosp., Oklahoma, Okla. 73126, United States
SO DIG. DIS. SCI., (1981) 26/8 (681-685).
CODEN: DDSCDJ
CY United States
LA English
AB Interval sampling of breath hydrogen content was used in lactose malabsorbers: to compare hydrogen responses following increasing oral doses of lactose in milk and aqueous solutions; to determine the reproducibility of interval breath sampling; and to compare carbohydrate malabsorption following ingestion of either regular milk or milk containing Lactobacillus acidophilus. Significant differences in breath hydrogen responses due to increasing amounts of lactose in milk and aqueous solutions were observed. The individual breath hydrogen responses were reproducible using the same lactose dose on different days. There was no significant difference in breath hydrogen responses or symptoms following administration of either regular milk or milk containing Lactobacillus acidophilus. Breath hydrogen sampling at intervals, as performed in these studies, provides a sensitive and reproducible index of lactose malabsorption.
CC 006.02.04.00.00.
006.08.00.00.00.
006.12.03.00.00.
029.04.03.00.00.
029.07.09.00.00.
029.07.26.00.00.
048.04.02.00.00.

048.05.04.01.00.
 CT EMTAGS: methodology (0130); diagnosis (0140);
 major clinical study (0150); small intestine (0941)
 Medical Descriptors:
 *breath analysis
 *lactose
 *malabsorption syndrome
 *beta galactosidase deficiency
 hydrogen

=> d his

FILE 'MEDLINE' ENTERED AT 08:19:50 ON 12 AUG 1998

L1	3894 S BREATH TESTS/CT
L2	843 S NITRIC OXIDE (L) AN/CT
L3	64 S L1 AND L2
L4	468560 S C8./CT
L5	30 S L3 AND L4
L6	2237 S GLOTTIS/CT
L7	0 S L3 AND L6
L8	0 S L1 AND L6
L9	8010 S POSITIVE-PRESSURE RESPIRATION/CT
L10	1134 S POSITIVE-PRESSURE RESPIRATION (L) MT/CT
L11	2 S L3 AND L9
L12	1 S L1 AND L10
L13	16 S L1 AND L9
L14	11 S L6 AND L9
L15	3 S L6 AND L10
L16	11 S L14 OR L15
L17	3966 S CARBON()DIOXIDE (L) AN/CT
L18	385 S L1 AND L17
L19	1 S L18 AND L10
L20	7 S L18 AND L9
L21	7 S L19 OR L20
L22	288 S VELUM OR VELLUM
L23	1 S (L18 OR L3) AND L22
L24	0 S L22 AND L10
L25	0 S L22 AND L9
L26	4 S PRESSUR?(9A)L22
L27	8 S CLOS?(3A)L22
L28	11 S L26 OR L27
L29	1402 S SOFT()PALATE
L30	5368 S (NASAL OR NASOPHARYN?) (2A)CAVITY
L31	9 S L1 AND (L29 OR L30)
L32	19 S L28 OR L31
L33	16 S L11 OR L12 OR L13
L34	3273 S (DETECT? OR SENSE# OR SENSING# OR ANALY? OR ANAL# OR AS
L35	12918 S PARTIAL PRESSURE/CT
L36	7990 S (PULMONARY OR LUNG) (3A)GAS
L37	261 S L34 AND L36
L38	10 S L3 AND L34
L39	2 S L5 AND L34
L40	33 S L1 AND L37
L41	10 S L40 AND (L2 OR L17)
L42	18 S L38 OR L39 OR L41

Weiss 08/851,420

L43 7 S L34 AND (L21 OR L16 OR L32 OR L33)
L44 5 S L43 NOT L42
L45 46 S L21 OR L16 OR L32 OR L33
L46 25 S L45 AND L1
L47 20 S L45 NOT (L46 OR L42 OR L44)
L48 19 S L46 NOT (L42 OR L44)

FILE 'EMBASE' ENTERED AT 09:18:48 ON 12 AUG 1998

L49 2160 S BREATH ANALYSIS/CT
L50 708817 S 0130/CT
L51 318 S L49 AND L50
L52 2160 S L34 AND L49
L53 2160 S L49 AND L52
L54 318 S L53 AND L51
L55 20310 S (NITRIC()OXIDE OR NO OR CARBON()DIOXIDE OR CO2 OR GAS?
L56 49 S L54 AND L55
L57 4503 S L22 OR L29 OR L30
L58 0 S L57 AND L56
L59 10472 S PARTIAL()PRESSURE OR PP
L60 2 S L57 AND L59
L61 70 S CLOS?(3A)L57
L62 0 S L61 AND L49
L63 1 S L61 AND L34
L64 12111 S BREATH OR EXHALANT
L65 3 S L61 AND L64
L66 5 S L60 OR L63 OR L65
L67 49 S L56 NOT L66
L68 1401914 S 0140/CT
L69 234741 S 0930/CT
L70 15 S L67 AND L69
L71 27 S L67 AND L68
L72 0 S L59 AND L61
L73 2234 S RESPIRATOR
L74 0 S L61 AND L73
L75 2 S L67 AND PRESSURE
L76 38 S L70 OR L71
L77 19 S (NITRIC()OXIDE OR NO OR CARBON()DIOXIDE OR CO2) AND L76
L78 20 S L75 OR L77
L79 20 S L78 NOT L66
SAVE L67 WEI420E/A

FILE 'BIOSIS' ENTERED AT 10:29:10 ON 12 AUG 1998

L80 210205 S 16001/CC
L81 372502 S 10012/CC
L82 1097461 S 12504/CC
L83 36393 S 10504/CC AND L80
L84 10855 S L83 AND L81
L85 2974 S L84 AND L82
L86 191942 S ANALYTICAL()METHOD/ST
L87 535 S 00520/CC AND L85
L88 5 S L86 AND L87
L89 21708 S L55
L90 23 S L89 AND L87

=> d 190 1-23 all

Choon Koh STIC/LIBRARY 308-4133

Page 87

L90 ANSWER 1 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
 AN 97:335859 BIOSIS
 DN 99635062
 TI New 13C-breath tests to evaluate liver function.
 AU Perri F; Niro G; Clemente R; Annese V; Bradley J; Caturelli E;
 Quitadamo M; Caruso N; Andriulli A
 CS Gastroenterol. "C.S.S." Hospital IRCCS, S. Giovanni Rotondo, Italy
 SO Digestive Disease Week and the 97th Annual Meeting of the American
 Gastroenterological Association, Washington, D.C., USA, May 11-14,
 1997. Gastroenterology 112 (4 SUPPL.). 1997. A1357. ISSN: 0016-5085
 DT Conference
 LA English
 PR Biological Abstracts/RRM Vol. 049 Iss. 008 Ref. 141627
 ST MEETING ABSTRACT; HUMAN; PATIENT; **GASTROENTEROLOGY**;
 CARBON-13-BREATH TEST; LIVER FUNCTION; METHODOLOGY; LIVER
 BIOPSY; CHRONIC HEPATITIS; LIVER CIRRHOSIS; STATISTICAL ANALYSIS;
 AMINOPYRINE BREATH TEST; PHENYLALANINE BREATH TEST; METHACETIN BREATH
 TEST; PHENYLALANINE; DIAGNOSTIC-DRUG; METHACETIN; DIAGNOSTIC-DRUG;
 AMINOPYRINE; DIAGNOSTIC-DRUG; DIAGNOSTIC METHOD; SURGICAL METHOD;
 DIGESTIVE SYSTEM DISEASE; PHARMACOLOGICAL METHOD
 RN 51-66-1 (METHACETIN)
 58-15-1 (AMINOPYRINE)
 63-91-2 (PHENYLALANINE)
 CC **General Biology-Symposia, Transactions and Proceedings of**
Conferences, Congresses, Review Annuals 00520
 Mathematical Biology and Statistical Methods *04500
Biochemistry-Gases *10012
 Biochemical Methods-General *10050
 Biochemical Methods-Minerals *10059
 Biochemical Studies-General *10060
 Biochemical Studies-Minerals *10069
Biophysics-General Biophysical Techniques *10504
 Anatomy and Histology, General and Comparative-Surgery *11105
Pathology, General and Miscellaneous-Diagnostic *12504
 Pathology, General and Miscellaneous-Inflammation and Inflammatory
 Disease *12508
 Digestive System-General; Methods *14001
 Digestive System-Physiology and Biochemistry *14004
 Digestive System-Pathology *14006
Respiratory System-General; Methods *16001
 Respiratory System-Physiology and Biochemistry *16004
 Respiratory System-Pathology *16006
 Pharmacology-Clinical Pharmacology *22005
 Pharmacology-Digestive System *22014
 Public Health-Public Health Administration and Statistics *37010
 Public Health-Health Services and Medical Care *37012
 BC Hominidae 86215

L90 ANSWER 2 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
 AN 97:280407 BIOSIS
 DN 99579610
 TI Digestibility of raw and cooked egg protein is accurately evaluated
 by breath test technique.
 AU Evenepoel P; Geypens B; Hiele M; Rutgeerts P; Ghooys Y
 CS Cent. GI Res., Univ. Leuven, B-3000 Leuven, Belgium
 SO Digestive Disease Week and the 97th Annual Meeting of the American
 Choon Koh STIC/LIBRARY 308-4133

- Gastroenterological Association, Washington, D.C., USA, May 11-14, 1997. Gastroenterology 112 (4 SUPPL.). 1997. A873. ISSN: 0016-5085
- DT Conference
- LA English
- PR Biological Abstracts/RRM Vol. 049 Iss. 007 Ref. 115216
- ST MEETING ABSTRACT; HUMAN; HEALTHY VOLUNTEER; PATIENT; DIGESTIVE DISEASE; RAW EGG PROTEIN; ABSORPTION; ASSIMILATION; DIGESTIBILITY; COOKED EGG PROTEIN; RAW EGG; COOKED EGG; **BREATH TEST** TECHNIQUE; METHODOLOGY; NUTRITION; FOODS; **GASTROINTESTINAL** DISEASE; FOOD PROCESSING; SMALL INTESTINE; DIGESTIVE SYSTEM DISEASE; DIAGNOSTIC METHOD; DIGESTIVE SYSTEM
- CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
Biochemistry-Gases *10012
 Biochemical Methods-Proteins, Peptides and Amino Acids *10054
 Biochemical Studies-Proteins, Peptides and Amino Acids *10064
Biophysics-General Biophysical Techniques *10504
Pathology, General and Miscellaneous-Diagnostic *12504
 Metabolism-Proteins, Peptides and Amino Acids *13012
 Nutrition-Proteins, Peptides and Amino Acids *13224
 Food Technology-Poultry and Eggs *13520
 Food Technology-Evaluations of Physical and Chemical Properties *13530
 Digestive System-General; Methods *14001
 Digestive System-Physiology and Biochemistry *14004
 Digestive System-Pathology *14006
Respiratory System-General; Methods *16001
 Respiratory System-Physiology and Biochemistry *16004
 Respiratory System-Pathology *16006
- BC Hominidae 86215
- L90 ANSWER 3 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
- AN 97:59043 BIOSIS
- DN 99358246
- TI Exercise limitation in COPD patients with respiratory muscle fatigue.
- AU Aisanov Z R; Chuchalin A G; Kalmanova E N; Mamyan V Z
- CS Pulmonol. Research Inst., Moscow, Russia
- SO Annual Congress European Respiratory Society, Stockholm, Sweden, September 7-11, 1996. European Respiratory Journal Supplement 9 (23). 1996. 389S. ISSN: 0904-1850
- DT Conference
- LA English
- PR Biological Abstracts/RRM Vol. 049 Iss. 002 Ref. 031138
- ST MEETING ABSTRACT; MEETING POSTER; HUMAN; PATIENT; PULMONARY MEDICINE; COPD; CHRONIC OBSTRUCTIVE PULMONARY DISEASE; MAXIMAL OXYGEN UPTAKE; **CARBON DIOXIDE** PRODUCTION; BREATHING PATTERN PARAMETERS; EXERCISE LIMITATION; RESPIRATORY MUSCLE FATIGUE SYMPTOMS
- RN 124-38-9 (CARBON DIOXIDE)
 7782-44-7 (OXYGEN)
- CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
Biochemistry-Gases *10012
Biophysics-General Biophysical Techniques 10504
 Physiology, General and Miscellaneous-Exercise and Physical Therapy *12010
Pathology, General and Miscellaneous-Diagnostic 12504

Metabolism-Energy and Respiratory Metabolism *13003
Respiratory System-General; Methods 16001
 Respiratory System-Physiology and Biochemistry *16004
 Respiratory System-Pathology *16006
 Muscle-Pathology *17506
 BC Hominidae 86215

L90 ANSWER 4 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
 AN 96:297000 BIOSIS
 DN 99019356
 TI Non invasive evaluation of patients with upper G.I. symptoms: Is endoscopy always necessary?.
 AU Perri F; Clemente R; Annese V; Caruso N; Villani M R; Latiano A; Andriulli A
 CS Gastroenterology "C.S.S." Hospital IRCCS, S. Giovanni Rotondo, Italy
 SO 96th Annual Meeting of the American Gastroenterological Association and the Digestive Disease Week, San Francisco, California, USA, May 19-22, 1996. Gastroenterology 110 (4 SUPPL.). 1996. A33. ISSN: 0016-5085
 DT Conference
 LA English
 PR Biological Abstracts/RRM Vol. 048 Iss. 007 Ref. 113092
 ST MEETING ABSTRACT; HUMAN; GASTRO-INTESTINAL; UREA
BREATH TEST; DIAGNOSTIC METHOD
 RN 57-13-6 (UREA)
 CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
Biochemistry-Gases *10012
Biophysics-General Biophysical Techniques *10504
Pathology, General and Miscellaneous-Diagnostic *12504
 Metabolism-General Metabolism; Metabolic Pathways *13002
 Digestive System-General; Methods *14001
 Digestive System-Pathology *14006
Respiratory System-General; Methods *16001
 BC Hominidae 86215

L90 ANSWER 5 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
 AN 96:96934 BIOSIS
 DN 98669069
 TI Reliability of the single-breath estimate of total lung capacity: Implications for correction of diffusing capacity for lung volume.
 AU McCarthy K; Laskowski D; Arroliga A; Kavuru M
 CS Dep. Pulmonary Critical Care Med., Cleveland Clinic Foundation, Cleveland, OH 44195, USA
 SO Annual Congress of the European Respiratory Society, Barcelona, Spain, September 16-20, 1995. European Respiratory Journal 8 (SUPPL. 19). 1995. 477S. ISSN: 0903-1936
 DT Conference
 LA English
 PR Biological Abstracts/RRM Vol. 048 Iss. 003 Ref. 044894
 ST MEETING ABSTRACT; HUMAN; MULTIPLE **BREATH GAS**
DILUTION; PLETHYSMOGRAPHY; DIAGNOSTIC METHOD
 CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
 Mathematical Biology and Statistical Methods 04500
Biochemistry-Gases *10012
Biophysics-General Biophysical Techniques 10504
 Choon Koh STIC/LIBRARY 308-4133

Movement 12100
Pathology, General and Miscellaneous-Diagnostic *12504
Respiratory System-General; Methods 16001
Respiratory System-Anatomy 16002
Respiratory System-Physiology and Biochemistry *16004
BC Hominidae 86215

L90 ANSWER 6 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
AN 96:96489 BIOSIS
DN 98668624
TI Decreased exhaled nitric oxide reflects
pulmonary hypertension in patients with systemic sclerosis.
AU Cailes J B; Kharitonov S; Barnes P J; Black C M; Du Bois R M
CS Royal Brompton, London, UK
SO Annual Congress of the European Respiratory Society, Barcelona,
Spain, September 16-20, 1995. European Respiratory Journal 8 (SUPPL.
19). 1995. 371S. ISSN: 0903-1936
DT Conference
LA English
PR Biological Abstracts/RRM Vol. 048 Iss. 003 Ref. 044449
ST MEETING ABSTRACT; DOPPLER ECHOCARDIOGRAPHY; COMPUTED TOMOGRAPHY;
DIAGNOSTIC METHOD
RN 10102-43-9 (NITRIC OXIDE)
CC **General Biology-Symposia, Transactions and Proceedings of**
Conferences, Congresses, Review Annuals 00520
Methods, Materials and Apparatus, General-Photography 01012
Radiation-Radiation and Isotope Techniques *06504
Biochemistry-Gases *10012
Biophysics-General Biophysical Techniques 10504
External Effects-Pressure 10606
Anatomy and Histology, General and Comparative-Radiologic Anatomy
11106
Pathology, General and Miscellaneous-Diagnostic *12504
Metabolism-General Metabolism; Metabolic Pathways *13002
Metabolism-Energy and Respiratory Metabolism *13003
Cardiovascular System-General; Methods 14501
Cardiovascular System-Blood Vessel Pathology *14508
Respiratory System-General; Methods 16001
Respiratory System-Pathology *16006
Bones, Joints, Fasciae, Connective and Adipose Tissue-General;
Methods 18001
Bones, Joints, Fasciae, Connective and Adipose Tissue-Pathology
*18006
BC Hominidae 86215

L90 ANSWER 7 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
AN 96:95023 BIOSIS
DN 98667158
TI The physiological component of the clinical-radiologic-physiologic
(CRP) score and thin section computed tomography (CT) in lone
cryptogenic fibrosing alveolitis (CFA): A functional-morphological
correlation.
AU Wells A U; Hansell D M; Rubens M B; Du Bois R M
CS Royal Brompton Hosp., London, UK
SO Annual Congress of the European Respiratory Society, Barcelona,
Spain, September 16-20, 1995. European Respiratory Journal 8 (SUPPL.
19). 1995. 15S. ISSN: 0903-1936

DT Conference
 LA English
 PR Biological Abstracts/RRM Vol. 048 Iss. 003 Ref. 042983
 ST MEETING ABSTRACT; HUMAN; RESPIRATION; LUNG VOLUME;
GAS EXCHANGE; DISEASE SEVERITY; PULMONARY FUNCTION
 TEST; CHEST RADIOGRAPHY; DIAGNOSTIC METHOD
 CC **General Biology-Symposia, Transactions and Proceedings of**
Conferences, Congresses, Review Annuals 00520
 Radiation-Radiation and Isotope Techniques *06504
Biochemistry-Gases *10012
Biophysics-General Biophysical Techniques *10504
 Anatomy and Histology, General and Comparative-Radiologic Anatomy
 *11106
 Chordate Body Regions-Thorax *11312
Pathology, General and Miscellaneous-Diagnostic *12504
 Pathology, General and Miscellaneous-Inflammation and Inflammatory
 Disease *12508
Respiratory System-General; Methods *16001
 Respiratory System-Anatomy *16002
 Respiratory System-Physiology and Biochemistry *16004
 Respiratory System-Pathology *16006
 Bones, Joints, Fasciae, Connective and Adipose Tissue-General;
 Methods *18001
 Bones, Joints, Fasciae, Connective and Adipose Tissue-Anatomy *18002
 Bones, Joints, Fasciae, Connective and Adipose Tissue-Physiology and
 Biochemistry *18004
 Bones, Joints, Fasciae, Connective and Adipose Tissue-Pathology
 *18006
 BC Hominidae 86215
 L90 ANSWER 8 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
 AN 96:13700 BIOSIS
 DN 98585835
 TI A novel technique for contrasting pulmonary vascular response in
 intact rat lungs and isolated perfused rat lungs.
 AU Hyman A L; Hao Q Z; Tower A; Lippton H
 CS Tulane Med. Sch., New Orleans, LA, USA
 SO 68th Scientific Session of the American Heart Association, Anaheim,
 California, USA, November 13-16, 1995. Circulation 92 (8 SUPPL.).
 1995. I702. ISSN: 0009-7322
 DT Conference
 LA English
 PR Biological Abstracts/RRM Vol. 048 Iss. 001 Ref. 015953
 ST MEETING ABSTRACT; HUMAN; INTACT SPONTANEOUSLY BREATHING RAT;
NITRIC OXIDE; LEFT ATRIAL PRESSURE;
PULMONARY CIRCULATION; PULMONARY VASCULAR
 RESISTANCE; PULMONARY HYPERTENSION; CARDIOPULMONARY DISEASE; ANIMAL
 MODEL; DIAGNOSTIC METHOD
 RN 10102-43-9 (NITRIC OXIDE)
 CC **General Biology-Symposia, Transactions and Proceedings of**
Conferences, Congresses, Review Annuals 00520
Biochemistry-Gases *10012
 Biochemical Methods-Proteins, Peptides and Amino Acids *10054
 Biochemical Studies-Proteins, Peptides and Amino Acids 10064
Biophysics-General Biophysical Techniques *10504
 Movement *12100
Pathology, General and Miscellaneous-Diagnostic *12504

Metabolism-Proteins, Peptides and Amino Acids *13012
 Cardiovascular System-General; Methods *14501
 Cardiovascular System-Physiology and Biochemistry *14504
 Cardiovascular System-Heart Pathology *14506
 Cardiovascular System-Blood Vessel Pathology *14508
 Blood, Blood-Forming Organs and Body Fluids-General; Methods *15001
 Blood, Blood-Forming Organs and Body Fluids-Blood and Lymph Studies *15002
 Blood, Blood-Forming Organs and Body Fluids-Blood, Lymphatic and Reticuloendothelial Pathologies *15006
Respiratory System-General; Methods *16001
 Respiratory System-Physiology and Biochemistry *16004
 Respiratory System-Pathology *16006
 Endocrine System-Neuroendocrinology *17020
 Nervous System-General; Methods *20501
 Nervous System-Physiology and Biochemistry *20504
 Nervous System-Pathology *20506
 Laboratory Animals-General 28002
 BC Hominidae 86215
 Muridae 86375

L90 ANSWER 9 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
 AN 95:94613 BIOSIS
 DN 98108913
 TI Dose-response of NO on the lung circulation in patients with chronic pulmonary embolism.
 AU Jorfeldt L; Gustavsson L; Larsen F; Juhlin-Dannfelt A; Broman M; Walter H; Holmgren A
 CS Dep. Thoracic Physiol. Lung. Med., Karolinska Hosp., Stockholm, Sweden
 SO Meeting of the European Respiratory Society (ERS), Nice, France, October 1-October 5, 1994. European Respiratory Journal 7 (SUPPL. 18). 1994. 105S. ISSN: 0903-1936
 DT Conference
 LA English
 PR Biological Abstracts/RRM Vol. 047 Iss. 003 Ref. 043275
 ST MEETING ABSTRACT; NITRIC OXIDE; VENTILATION-PERFUSION SCINTIGRAPHY; ANGIOGRAPHY; DIAGNOSTIC METHOD
 RN 10102-43-9 (NITRIC OXIDE)
 CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
 Methods, Materials and Apparatus, General-Photography 01012
 Radiation-Radiation and Isotope Techniques *06504
Biochemistry-Gases *10012
Biophysics-General Biophysical Techniques 10504
 Anatomy and Histology, General and Comparative-Radiologic Anatomy 11106
 Movement 12100
Pathology, General and Miscellaneous-Diagnostic *12504
 Cardiovascular System-General; Methods 14501
 Cardiovascular System-Physiology and Biochemistry 14504
 Cardiovascular System-Blood Vessel Pathology *14508
 Blood, Blood-Forming Organs and Body Fluids-General; Methods 15001
 Blood, Blood-Forming Organs and Body Fluids-Blood and Lymph Studies 15002
 Blood, Blood-Forming Organs and Body Fluids-Blood, Lymphatic and Reticuloendothelial Pathologies *15006

Respiratory System-General; Methods 16001
 Respiratory System-Physiology and Biochemistry 16004
 Respiratory System-Pathology *16006
 Pharmacology-Clinical Pharmacology *22005
 Pharmacology-Blood and Hematopoietic Agents *22008
 Pharmacology-Integumentary System, Dental and Oral Biology *22020
 Pharmacology-Respiratory System *22030

BC Hominidae 86215

L90 ANSWER 10 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
 AN 94:2382 BIOSIS
 DN 97015382
 TI Determination of 13C-labelled CO-2: A new application of non-dispersive infrared spectroscopy.
 AU Haisch M; Hering P; Wendel U; Broesicke H; Schadewaldt P
 CS Inst. Lasermedizin, Klinderklinik, Heinrich-Heine-Univ. Duesseldorf, Moorestrasse 5, W-4000 Duesseldorf 1, GER
 SO Annual Autumn Meeting of the Gesellschaft fuer Biologische Chemie (Society for Biological Chemistry), Duesseldorf, Germany, September 12-15, 1993. Biological Chemistry Hoppe-Seyler 374 (9). 1993. 688. ISSN: 0177-3593
 DT Conference
 LA English
 ST MEETING ABSTRACT; HUMAN; NON-INVASIVE CARBON-13 **CARBON DIOXIDE BREATH TEST DEVELOPMENT; METABOLIC DISTURBANCE APPLICATIONS; METHOD**

RN 58561-67-4 (LABELLED CO-2)

CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
 Radiation-Radiation and Isotope Techniques *06504
Biochemistry-Gases *10012
 Biochemical Methods-General *10050
 Biochemical Studies-General *10060
Biophysics-General Biophysical Techniques *10504
 Biophysics-Molecular Properties and Macromolecules *10506
Pathology, General and Miscellaneous-Diagnostic *12504
 Metabolism-Metabolic Disorders 13020
Respiratory System-General; Methods *16001
 Respiratory System-Physiology and Biochemistry *16004
 Dental and Oral Biology-General; Methods *19001
 Developmental Biology-Embryology-Pathological 25503

BC Hominidae 86215

L90 ANSWER 11 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
 AN 93:515958 BIOSIS
 DN BR45:114583
 TI CAPNOGRAM REFLECTS THE SEVERITY OF ACUTE LUNG INJURY IN A SURFACTANT DEPLETION MODEL.
 AU MCRAE K M; NEUFELD G R
 CS DEP. ANESTHESIA, UNIV. PENNSYLVANIA, PHILADELPHIA, PA 19104, USA.
 SO ANNUAL MEETING OF THE AMERICAN SOCIETY OF ANESTHESIOLOGISTS, WASHINGTON, D.C., USA, OCTOBER 9-13, 1993. ANESTHESIOLOGY 79 (3A). 1993. A291. CODEN: ANESAV ISSN: 0003-3022
 DT Conference
 LA English
 ST ABSTRACT RABBIT ALVEOLATED AIRWAY **GAS EXCHANGE LUNG VOLUME**

CC **General Biology-Symposia, Transactions and Proceedings of
Conferences, Congresses, Review Annuals 00520**
Biochemistry-Gases *10012
Biophysics-General Biophysical Techniques *10504
External Effects-Physical and Mechanical Effects *10612
Pathology, General and Miscellaneous-Diagnostic *12504
Respiratory System-General; Methods *16001
Respiratory System-Physiology and Biochemistry *16004
Respiratory System-Pathology *16006

BC Leporidae 86040

L90 ANSWER 12 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
AN 93:134402 BIOSIS
DN BR44:65402
TI A VERSATILE SYSTEM FOR SINGLE-BREATH INHALATION OR
REBREATHING OF **GASES** LABELLED WITH OXYGEN-15 FLUORINE-18 OR
CARBON-11.
AU WAGNER R; ARENZ W; RICHERZHAGEN N; WIENHARD K
CS MAX PLANCK INST. NEUROLOGISCHE FORSCHUNG KOELN, GLEUELER STR. 50,
D-5000 KOELN 41, GERMANY.
SO IXTH INTERNATIONAL SYMPOSIUM ON RADIOPHARMACEUTICAL CHEMISTRY, PARIS,
FRANCE, APRIL 6-10, 1992. J LABELLED COMPD RADIOPHARM 32 (0). 1993.
456-458. CODEN: JLCRD4 ISSN: 0362-4803
DT Conference
LA English
ST ABSTRACT HUMAN DIAGNOSTIC ADMINISTRATION APPARATUS POSITRON EMISSION
TOMOGRAPHY
RN 13981-56-1 (FLUORINE-18)
13982-43-9 (OXYGEN-15)
14333-33-6 (CARBON-11)

CC **General Biology-Symposia, Transactions and Proceedings of
Conferences, Congresses, Review Annuals 00520**
Methods, Materials and Apparatus, General-Laboratory Apparatus
*01006
Radiation-Radiation and Isotope Techniques *06504
Biochemistry-Gases 10012
Biochemical Studies-General 10060
Biophysics-General Biophysical Techniques *10504
Pathology, General and Miscellaneous-Diagnostic *12504
Respiratory System-General; Methods *16001
Routes of Immunization, Infection and Therapy *22100

BC Hominidae 86215

L90 ANSWER 13 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
AN 91:333473 BIOSIS
DN BR41:30023
TI EFFECT OF BRONCHOALVEOLAR LAVAGE ON **GAS** EXCHANGE IN
PATIENTS WITH DIFFUSE **LUNG** DISEASE AND RESPIRATORY FAILURE.
AU SHAPIRO J M; PEDERSEN K L; COLE R P
CS COLUMBIA UNIV., NEW YORK, N.Y.
SO INTERNATIONAL CONFERENCE OF THE AMERICAN LUNG ASSOCIATION AND THE
AMERICAN THORACIC SOCIETY, ANAHEIM, CALIFORNIA, USA, MAY 12-15, 1991.
AM REV RESPIR DIS 143 (4 PART 2). 1991. A484. CODEN: ARDSBL ISSN:
0003-0805
DT Conference
LA English
ST ABSTRACT HUMAN HEMODYNAMICS MECHANICAL VENTILATION FIBEROPTIC
Choon Koh STIC/LIBRARY 308-4133

BRONCHOSCOPY

CC **General Biology-Symposia, Transactions and Proceedings of
Conferences, Congresses, Review Annuals 00520**
Biochemistry-Gases *10012
Biophysics-General Biophysical Techniques 10504
Pathology, General and Miscellaneous-Diagnostic *12504
Pathology, General and Miscellaneous-Therapy *12512
Metabolism-Energy and Respiratory Metabolism *13003
Cardiovascular System-Physiology and Biochemistry *14504
Blood, Blood-Forming Organs and Body Fluids-Blood and Lymph Studies
*15002
Respiratory System-General; Methods *16001
Respiratory System-Pathology *16006

BC Hominidae 86215

L90 ANSWER 14 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
AN 91:313110 BIOSIS
DN BR41:21700
TI CARDIAC OUTPUT DETERMINATION DURING PROGRESSIVE EXERCISE IN CYSTIC
FIBROSIS CF.
AU LANDS L C; HEIGENHAUSER G J F; JONES N L
CS MCMASTER UNIV. MED. CENTER, HAMILTON, CAN. L8N 3Z5.
SO 1991 INTERNATIONAL CONFERENCE OF THE AMERICAN LUNG ASSOCIATION AND
THE AMERICAN THORACIC SOCIETY, ANAHEIM, CALIFORNIA, USA, MAY 12-15,
1991. AM REV RESPIR DIS 143 (4 PART 2). 1991. A294. CODEN: ARDSBL
ISSN: 0003-0805
DT Conference
LA English
ST ABSTRACT HUMAN LUNG DISEASE CARBON
DIOXIDE REBREATHING INDIRECT FICK TECHNIQUE CARDIOPULMONARY
INTERACTION
RN 124-38-9 (CARBON DIOXIDE)

CC **General Biology-Symposia, Transactions and Proceedings of
Conferences, Congresses, Review Annuals 00520**
Genetics and Cytogenetics-Human *03508
Biochemistry-Gases *10012
Biochemical Studies-General 10060
Biophysics-General Biophysical Techniques 10504
Physiology, General and Miscellaneous-Exercise and Physical Therapy
*12010
Pathology, General and Miscellaneous-Diagnostic *12504
Metabolism-Metabolic Disorders *13020
Digestive System-Pathology 14006
Cardiovascular System-General; Methods *14501
Urinary System and External Secretions-Pathology 15506
Respiratory System-General; Methods *16001
Respiratory System-Pathology *16006
Endocrine System-Pancreas 17008
Developmental Biology-Embryology-Pathological *25503

BC Hominidae 86215

L90 ANSWER 15 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
AN 91:312272 BIOSIS
DN BR41:20862
TI EXERCISE TOLERANCE IN UNTRAINED COPD PATIENTS IS NOT LIMITED BY
VENTILATION.
AU MAKE B J; BUCHHOLZ J

- CS PULMONARY SECTION, NATIONAL JEWISH CENT. IMMUNOL. RESPIRATORY MED.,
UNIV. COLORADO, DENVER, COLO.
- SO 1991 INTERNATIONAL CONFERENCE OF THE AMERICAN LUNG ASSOCIATION AND
THE AMERICAN THORACIC SOCIETY, ANAHEIM, CALIFORNIA, USA, MAY 12-15,
1991. AM REV RESPIR DIS 143 (4 PART 2). 1991. A78. CODEN: ARDSBL
ISSN: 0003-0805
- DT Conference
- LA English
- ST ABSTRACT HUMAN CARDIAC EFFECT ARTERIAL BLOOD **GASES** CHRONIC
OBSTRUCTIVE **PULMONARY** DISEASE ELECTROCARDIOGRAPHY
- CC **General Biology-Symposia, Transactions and Proceedings of
Conferences, Congresses, Review Annuals 00520**
Biochemistry-Gases *10012
Biophysics-General Biophysical Techniques 10504
Physiology, General and Miscellaneous-Exercise and Physical Therapy
*12010
Pathology, General and Miscellaneous-Diagnostic *12504
Metabolism-Energy and Respiratory Metabolism *13003
Cardiovascular System-General; Methods 14501
Cardiovascular System-Physiology and Biochemistry *14504
Blood, Blood-Forming Organs and Body Fluids-Blood and Lymph Studies
*15002
Respiratory System-General; Methods 16001
Respiratory System-Pathology *16006
- BC Hominidae 86215
- L90 ANSWER 16 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
- AN 90:531183 BIOSIS
- DN BR39:131681
- TI PREOPERATIVE BETA-BLOCKADE PREVENTS POSTOPERATIVE ELEVATIONS IN TOTAL
BODY OXYGEN CONSUMPTION.
- AU ZELEN J; BILFINGER T V
- CS STATE UNIV. NEW YORK, STONY BROOK.
- SO ACCP'S (AMERICAN COLLEGE OF CHEST PHYSICIANS) 56TH ANNUAL SCIENTIFIC
ASSEMBLY, TORONTO, ONTARIO, CANADA, OCTOBER 22-26, 1990. CHEST 98 (2
SUPPL.). 1990. 70S. CODEN: CHETBF ISSN: 0012-3692
- DT Conference
- LA English
- ST ABSTRACT HUMAN CARDIOVASCULAR PHARMACOTHERAPY CORONARY ARTERY DISEASE
CARDIOPULMONARY BYPASS **PULMONARY** GAS SAMPLE LIGHT
SPECTROPHOTOMETRY
- RN 7782-44-7 (OXYGEN)
- CC **General Biology-Symposia, Transactions and Proceedings of
Conferences, Congresses, Review Annuals 00520**
Biochemistry-Gases *10012
Biophysics-General Biophysical Techniques 10504
Anatomy and Histology, General and Comparative-Surgery *11105
Pathology, General and Miscellaneous-Diagnostic *12504
Pathology, General and Miscellaneous-Therapy *12512
Metabolism-Energy and Respiratory Metabolism *13003
Cardiovascular System-Heart Pathology *14506
Cardiovascular System-Blood Vessel Pathology *14508
Respiratory System-General; Methods 16001
Pharmacology-Clinical Pharmacology *22005
Pharmacology-Cardiovascular System *22010
- BC Hominidae 86215

L90 ANSWER 17 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
 AN 89:282631 BIOSIS
 DN BR37:7628
 TI DISTRIBUTION OF REGIONAL LUNG-GAS VOLUME VS.
**PULMONARY TISSUE ATTENUATION IN HUMANS EFFECTS OF LUNG
 INFLATION HYDROSTATIC PRESSURE AND CHEST WALL TISSUE DENSITY.**
 AU SILVER J A; GROTH M L; BERGOFKY E H; FOSTER W M
 CS PULMONARY DIS. DIV., VAMC, STONY BROOK.
 SO ANNUAL MEETING OF THE AMERICAN LUNG ASSOCIATION AND THE AMERICAN
 THORACIC SOCIETY, CINCINNATI, OHIO, USA, MAY 14-17, 1989. AM REV
 RESPIR DIS 139 (4 PART 2). 1989. A104. CODEN: ARDSBL ISSN: 0003-0805
 DT Conference
 LA English
 ST ABSTRACT FUNCTIONAL RESIDUAL CAPACITY TOTAL LUNG CAPACITY
 TWO-DIMENSIONAL IMAGING TECHNETIUM TRANSMISSION SCAN
 RN 7440-26-8 (TECHNETIUM)
 CC **General Biology-Symposia, Transactions and Proceedings of
 Conferences, Congresses, Review Annuals 00520**
 Methods, Materials and Apparatus, General-Photography 01012
 Radiation-Radiation and Isotope Techniques *06504
Biochemistry-Gases *10012
 Biochemical Studies-Minerals 10069
Biophysics-General Biophysical Techniques 10504
 External Effects-Pressure 10606
 Anatomy and Histology, General and Comparative-Radiologic Anatomy
 11106
 Chordate Body Regions-Thorax 11312
Pathology, General and Miscellaneous-Diagnostic *12504
 Metabolism-Energy and Respiratory Metabolism *13003
Respiratory System-General; Methods 16001
 Respiratory System-Physiology and Biochemistry *16004
 BC Hominidae 86215

L90 ANSWER 18 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
 AN 89:88966 BIOSIS
 DN BR36:45057
 TI INCIDENCE OF SLEEP BREATHING PATTERN ON THE PROFILE OF THE OXYGEN
 SATURATION WITH RESPECT TO TIME DIAGRAM.
 AU AUBRY P; JOUNIEAUX V; ROSE D; LEVIVALENSI P
 CS SERV. PNEUMOL., C.H.U., 80030 AMIENS CEDEX, FR.
 SO SYMPOSIUM ON LUNG AND INFECTION PREVENTION AND SCREENING HELD AT THE
 7TH CONGRESS OF THE EUROPEAN SOCIETY OF PNEUMOLOGY, BUDAPEST,
 HUNGARY, SEPTEMBER 5-9, 1988. EUR RESPIR J 1 (SUPPL. 2). 1988. 229S.
 CODEN: ERJOEI
 DT Conference
 LA English
 ST ABSTRACT HUMAN CARBON DIOXIDE SLEEP APNEA
 SYNDROME CHRONIC OBSTRUCTIVE PULMONARY DISEASE
 POLYSOMNOGRAPHY
 RN 124-38-9 (CARBON DIOXIDE)
 7782-44-7 (OXYGEN)
 CC **General Biology-Symposia, Transactions and Proceedings of
 Conferences, Congresses, Review Annuals 00520**
 Behavioral Biology-Human Behavior 07004
Biochemistry-Gases *10012
Biophysics-General Biophysical Techniques *10504
Pathology, General and Miscellaneous-Diagnostic 12504
 Choon Koh STIC/LIBRARY 308-4133

Metabolism-General Metabolism; Metabolic Pathways *13002
Respiratory System-General; Methods 16001
Respiratory System-Physiology and Biochemistry *16004
Respiratory System-Pathology *16006
Nervous System-Physiology and Biochemistry *20504
Psychiatry-General; Medical Psychology and Sociology *21001
BC Hominidae 86215

L90 ANSWER 19 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
AN 89:66342 BIOSIS
DN BR36:33133
TI DIAGNOSTIC MANAGEMENT OF PULMONARY EMBOLISM.
AU BROCHIER M L
CS CARDIOLOGY DEP., UNIV. HOSP., 37044 TOURS, FRANCE.
SO INTERNATIONAL SYMPOSIUM ON RECENT ADVANCES IN THE CLINICAL MANAGEMENT
OF THROMBOEMBOLIC DISEASES, DUESSELDORF, WEST GERMANY, OCTOBER 20-22,
1988. THROMB RES 0 (SUPPL. 6). 1988. 43-46. CODEN: THBRAA ISSN:
0049-3848
LA English
ST HUMAN VENOUS ECHOGRAPHY DOPPLER ULTRASOUND IMPEDANCE PLETHYSMOGRAPHY
CHEST X-RAY ARTERIAL BLOOD GAS PERFUSION LUNG
SCANNING VENTILATION-PERFUSION LUNG SCAN PULMONARY
ANGIOGRAPHY ECHOCARDIOGRAPHY VENOGRAPHY VENOCAVOGRAPHY POST-MORTEM
STUDIES

CC **General Biology-Symposia, Transactions and Proceedings of
Conferences, Congresses, Review Annuals 00520**
General Biology-Forensic Science *00531
Radiation-Radiation and Isotope Techniques *06504
Clinical Biochemistry; General Methods and Applications *10006
Biochemistry-Gases 10012
Biophysics-General Biophysical Techniques 10504
Anatomy and Histology, General and Comparative-Radiologic Anatomy
*11106
Chordate Body Regions-Thorax 11312
Pathology, General and Miscellaneous-Diagnostic *12504
Pathology, General and Miscellaneous-Therapy *12512
Cardiovascular System-General; Methods *14501
Cardiovascular System-Blood Vessel Pathology *14508
Blood, Blood-Forming Organs and Body Fluids-Blood and Lymph Studies
*15002
Respiratory System-General; Methods *16001
Respiratory System-Pathology *16006
BC Hominidae 86215

L90 ANSWER 20 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
AN 88:471611 BIOSIS
DN BR35:101501
TI DOES POSITIVE END-EXPIRATORY PRESSURE PEEP AFFECT THE NATURAL HISTORY
OF ACUTE LUNG INJURY NO.
AU BOYSEN P G
CS BOX J-254, JHMH, GAINESVILLE, FLA. 32610.
SO CONFERENCE ON POSITIVE END-EXPIRATORY PRESSURE, PART 1, IXTAPA,
MEXICO, NOVEMBER 19-21, 1987. RESPIR CARE 33 (6). 1988. 493-501.
CODEN: RECACP
LA English
ST HUMAN ADULT RESPIRATORY DISTRESS SYNDROME OXYGENATION

CC **General Biology-Symposia, Transactions and Proceedings of**
Choon Koh STIC/LIBRARY 308-4133

- Conferences, Congresses, Review Annuals 00520
Biochemistry-Gases *10012
Biochemical Studies-General 10060
Biophysics-General Biophysical Techniques 10504
External Effects-Pressure *10606
Pathology, General and Miscellaneous-Diagnostic *12504
Pathology, General and Miscellaneous-Therapy *12512
Metabolism-Energy and Respiratory Metabolism *13003
Respiratory System-General; Methods *16001
Respiratory System-Pathology *16006
BC Hominidae 86215
- L90 ANSWER 21 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
AN 88:456408 BIOSIS
DN BR35:97288
TI EVALUATION OF THE MGC 2001 SYSTEM FOR MEASURING BREATH-BY-BREATH VENTILATION AND GAS EXCHANGE.
AU HILL J E; MERCHANT S; WARREN P M; FLENLEY D C
CS RAYNE LAB., DEP. RESPIR. MED., UNIV. EDINBURGH, CITY HOSP., EDINBURGH, UK.
SO WINTER MEETING OF THE MEDICAL RESEARCH SOCIETY, LONDON, ENGLAND, UK, DECEMBER 10-11, 1987. CLIN SCI (LOND) 74 (SUPPL. 18). 1988. 3P. CODEN: CSCIAE ISSN: 0143-5221
DT Conference
LA English
ST ABSTRACT HUMAN RESPIRATORY DISEASE EXERCISE MEDICAL GRAPHICS CORPORATION
CC General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520
Biochemistry-Gases *10012
Biophysics-General Biophysical Techniques *10504
Physiology, General and Miscellaneous-Exercise and Physical Therapy *12010
Pathology, General and Miscellaneous-Diagnostic *12504
Metabolism-Energy and Respiratory Metabolism *13003
Respiratory System-General; Methods *16001
Respiratory System-Pathology *16006
BC Hominidae 86215
- L90 ANSWER 22 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
AN 81:61471 BIOSIS
DN BR20:61471
TI COMPARATIVE STUDIES ON CENTRAL CHEMO SENSITIVITY IN CAT AND IN MAN.
AU SCHLAEFKE M E; WIERICH W; KILLE J F
CS INST. F. PHYSIOL., AG PHYSIOL. DER REGULATION, POSTFACH 102148, D-4630 BOCHUM.
SO 53RD MEETING OF DEUTSCHE PHYSIOLOGISCHE GESELLSCHAFT (GERMAN PHYSIOLOGICAL SOCIETY), KIEL, WEST GERMANY, MARCH 18-21, 1980. PFLUEGERS ARCH EUR J PHYSIOL 384 (SUPPL.). 1980. R30. CODEN: PFLABK ISSN: 0031-6768
DT Conference
LA English
ST ABSTRACT RESPIRATORY DRIVE BRAIN STEM GLIAL CELL PARAGIGANTO CELLULAR NUCLEUS ARCUATE NUCLEUS MACROPHAGE ALVEOLUS LUNG ARTERY MEDULLA BLOOD GAS SUDDEN INFANT DEATH SYNDROME HYPO VENTILATION SLEEP APNEA PICKWICKIAN SYNDROME
CC General Biology-Symposia, Transactions and Proceedings of
Choon Koh STIC/LIBRARY 308-4133

Conferences, Congresses, Review Annuals 00520
 Cytology and Cytochemistry-Animal *02506
 Behavioral Biology-Human Behavior *07004
Biochemistry-Gases 10012
Biophysics-General Biophysical Techniques 10504
 Anatomy and Histology, General and Comparative-Comparative Anatomy 11103
 Anatomy and Histology, General and Comparative-Experimental Anatomy 11104
 Physiology, General and Miscellaneous-Comparative *12003
Pathology, General and Miscellaneous-Diagnostic 12504
 Pathology, General and Miscellaneous-Necrosis 12510
 Nutrition-Malnutrition; Obesity 13203
 Cardiovascular System-General; Methods 14501
 Blood, Blood-Forming Organs and Body Fluids-Blood and Lymph Studies 15002
Respiratory System-General; Methods 16001
 Respiratory System-Physiology and Biochemistry *16004
 Respiratory System-Pathology *16006
 Sense Organs, Associated Structures and Functions-Physiology and Biochemistry *20004
 Nervous System-General; Methods 20501
 Nervous System-Physiology and Biochemistry *20504
 Nervous System-Pathology *20506
 Psychiatry-Psychopathology; Psychodynamics and Therapy *21002
 Psychiatry-Psychophysiology *21003
 Pediatrics *25000
 BC Felidae 85770
 Hominidae 86215

 L90 ANSWER 23 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
 AN 80:92589 BIOSIS
 DN BR19:30087
 TI TISSUE OXYGEN PARTIAL PRESSURE MONITORING A NEW METHOD IN THE CARE OF THE CRITICALLY ILL PATIENT.
 AU SCHOENLEBEN K; HAUSS J P; SPIEGEL U; BUENTE H; KESSLER M
 CS CHIR. UNIVERSITAETSKLIN., ALLGEMEINCHIR., JUNGBLODTP. 1, 4400 MÜNSTER, W. GER.
 SO TAVARES, B. M. AND R. FREY (ED.). ANAESTHESIOLOGIE UND INTENSIVMEDIZIN, ANAESTHESIOLOGY AND INTENSIVE CARE MEDICINE, VOL. 116. ACUTE CARE; PROCEEDINGS OF THE 6TH INTERNATIONAL SYMPOSIUM, XVI+345P. SPRINGER-VERLAG: NEW YORK, N.Y., USA; BERLIN, WEST GERMANY. ILLUS. PAPER. 0 (0). 1979. P29-33. CODEN: ANIMD2 ISBN: 0-387-09210-2; 3-540-09210-2 ISSN: 0171-1814
 LA English
 ST SKELETAL MUSCLE CARDIOVASCULAR-DRUG VOLUME DEFICIENCY **GASTRO** INTESTINAL HEMORRHAGE ANOXIA SHOCK **LUNG** VENTILATION PATHOLOGY MICRO CIRCULATION
 RN 7782-44-7 (OXYGEN)
 CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
Biochemistry-Gases *10012
 Biochemical Studies-General 10060
Biophysics-General Biophysical Techniques 10504
Pathology, General and Miscellaneous-Diagnostic 12504
 Digestive System-Pathology 14006
 Cardiovascular System-Physiology and Biochemistry *14504
 Choon Koh STIC/LIBRARY 308-4133

Cardiovascular System-Blood Vessel Pathology *14508
Blood, Blood-Forming Organs and Body Fluids-Blood, Lymphatic and
Reticuloendothelial Pathologies 15006

Respiratory System-General; Methods *16001

Respiratory System-Physiology and Biochemistry *16004

Respiratory System-Pathology *16006

Muscle-Physiology and Biochemistry 17504

Pharmacology-Cardiovascular System *22010

BC Hominidae 86215

=> d his 190-

(FILE 'BIOSIS' ENTERED AT 10:29:10 ON 12 AUG 1998)

L90 23 S L89 AND L87

L91 48 S L61

L92 0 S L87 AND L91

L93 3 S L91 AND L89

=> d 193 bib abs

L93 ANSWER 1 OF 3 BIOSIS COPYRIGHT 1998 BIOSIS

AN 98:219999 BIOSIS

DN 01219999

TI Production and absorption of nitric oxide gas in the nose.

AU Dubois A B; Douglas J S; Stitt J T; Mohsenin V

CS c/o John B. Pierce Lab., 290 Congress Ave., New Haven, CT 06519, USA

SO Journal of Applied Physiology 84 (4). 1998. 1217-1224. ISSN:
8750-7587

LA English

AB Some nitric oxide gas (NO) produced in the sinuses and nasal cavity is absorbed before leaving the nose. To measure production and absorption, we introduced NO at different concentrations into one nostril while sampling the NO leaving the opposite nostril with the **soft palate closed**. The quantity of NO gas produced in six normal subjects (amount leaving plus the amount absorbed) averaged 352 ml/min and was the same at gas flows ranging from 8 to 347 ml/min and at 10 l/min. An absorption coefficient A was calculated by dividing the amount of NO absorbed by the concentration leaving the nose. A ranged from 17 ml/min at a nasal gas flow of 8 ml/min to an A of 24 ml/min at a nasal gas flow of 347 ml/min. The calculated rates of production and absorption did not change when gas flow rate was increased, suggesting diffusion equilibrium. The amount of uptake of NO in the nasal mucosa can be explained by its solubility coupled with tissue and blood reactivity.

=> d 193 2-3 bib abs

L93 ANSWER 2 OF 3 BIOSIS COPYRIGHT 1998 BIOSIS

AN 97:359361 BIOSIS

DN 99665764

TI Nasal contribution to exhaled nitric oxide during exhalation against resistance or during breath holding.

AU Kharitonov S A; Barnes P J

CS Dep. Thoracic Med., Natl. Heart Lung Inst., Imperial Sch. Med.,
Dovehouse St., London SW3 6LY, UK

SO Thorax 52 (6). 1997. 540-544. ISSN: 0040-6376

LA English

AB Background: The concentration of nitric oxide (NO) is increased in the exhaled air of patients with inflammation of the airways, suggesting that this may be a useful measurement to monitor inflammation in diseases such as asthma. However, there have been concerns that exhaled NO may be contaminated by the high concentrations of NO derived from the upper airways, and that this may account for differences in reported values of exhaled NO using different techniques. A study was performed, with argon as a tracer, to determine the extent of nasal contamination of exhaled NO using different expiratory manoeuvres. Methods: Exhaled and nasal NO were measured by a chemiluminescence analyser. Argon (4.8%) was delivered continuously to the nose. Gas was sampled from the posterior oropharynx and argon and carbon dioxide were measured by mass spectrometry at the same time as NO. Results: During a single expiration against a low resistance and during **breath** holding there was **no** evidence for nasal contamination, whereas during exhalation without resistance argon concentration in the oropharynx was increased from 0.91% (95% CI 0.84% to 0.98%) in ambient air to 1.28% (0.9% to 2.24%, $p < 0.0001$) during a single breath or 2.37% (2.29% to 2.51%, $p < 0.0001$) during tidal breathing. Conclusions: Collection of exhaled NO in a reservoir during tidal breathing is likely to be contaminated by NO derived from the nose and this may underestimate any increases in NO derived from the lower respiratory tract in inflammatory diseases. However, with slow expiration against a resistance and created back pressure to **close the soft palate**, there is no contamination of exhaled air which then reflects concentrations of NO in the lower airways.

L93 ANSWER 3 OF 3 BIOSIS COPYRIGHT 1998 BIOSIS

AN 97:117347 BIOSIS

DN 99416550

TI Marked flow-dependence of exhaled nitric oxide using a new technique to exclude nasal nitric oxide.

AU Silkoff P E; McClean P A; Slutsky A S; Furlott H G; Hoffstein E; Wakita S; Chapman K R; Szalai J P; Zamel N

CS Mt. Sinai Hosp., Rm. 656, 600 University Avenue, Toronto, ON M5G 1X5, Canada

SO American Journal of Respiratory and Critical Care Medicine 155 (1). 1997. 260-267. ISSN: 1073-449X

LA English

AB Exhaled **nitric oxide (NO)** may aid in monitoring **pulmonary** disease. The single-**breath** **NO** profile (subjects with nose clip) was described as a NO peak followed by a plateau (NO-PLAT). Published exhaled NO values vary greatly, possibly due to contamination with nasal NO and differing respiratory maneuvers. We developed a technique to measure **pulmonary NO**, without nasal NO, by having the subject maintain a positive expiratory pressure (ensuring **vellum closure**), and we examined the variation in NO-PLAT over a range of expiratory flows (4.2 to 1,550 ml/s). NO-PLAT values rose almost 35-fold (3.2 ± 1.4 ppb to 110.5 ± 54.8 ppb) with decreasing flow, described by $\text{NO-PLAT} = 208.6795 \text{ times (flow rate)}^{-0.5995}$. However, NO excretion showed an almost 11-fold rise as flow increased. In summary, we present a simple technique for measuring exhaled NO without contamination by nasal NO. There is a marked flow dependence of exhaled NO concentration and

excretion. Exhaled **pulmonary NO** is best measured at very low flow rates to amplify the signal and must be related to the expiratory flow employed.

=> d 188 1-5 all

L88 ANSWER 1 OF 5 BIOSIS COPYRIGHT 1998 BIOSIS
 AN 97:479738 BIOSIS
 DN 99778941
 TI Correlation between exercise capacity, gas exchange measurements and myosin heavy chain shift in the skeletal muscle of patients with heart failure.
 AU Vescovo G; Dalla Libera L; Serafini F; Facchin L; Tenderini P; Leprotti C; Ambrosio G B
 CS CNR Unit Pathophysiol., Univ. Padua, Padua, Italy
 SO XIXth Congress of the European Society of Cardiology together with the 32nd Annual General Meeting of the Association of European Paediatric Cardiologists (AEPC), Stockholm, Sweden, August 24-28, 1997. European Heart Journal 18 (ABSTR. SUPPL.). 1997. 289. ISSN: 0195-668X
 DT Conference
 LA English
 PR Biological Abstracts/RRM Vol. 049 Iss. 011 Ref. 202738
 ST MEETING ABSTRACT; MEETING POSTER; HUMAN; PATIENT; CARDIOVASCULAR MEDICINE; SKELETAL MUSCLE; CONGESTIVE HEART FAILURE; GASTROCNEMIUS MUSCLE; MYOSIN HEAVY CHAIN; CARDIOPULMONARY EXERCISE TESTING; ELECTROPHORESIS; LASER DENSITOMETRY; SCHILLER CS 100 CARDIOVIT CAPNOGRAPH; CAPNOGRAPHY; EXERCISE CAPACITY; RESPIRATORY GAS EXCHANGE; MUSCULAR SYSTEM; COMPOSITION; HEART DISEASE; MODIFIED NAUGHTON PROTOCOL; DIAGNOSTIC METHOD; **ANALYTICAL METHOD**; MEDICAL EQUIPMENT
 CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
Biochemistry-Gases *10012
 Biochemical Methods-Proteins, Peptides and Amino Acids *10054
 Biochemical Studies-General *10060
 Biochemical Studies-Proteins, Peptides and Amino Acids *10064
Biophysics-General Biophysical Techniques *10504
 Biophysics-Molecular Properties and Macromolecules *10506
 Physiology, General and Miscellaneous-Exercise and Physical Therapy *12010
Pathology, General and Miscellaneous-Diagnostic *12504
 Cardiovascular System-Heart Pathology *14506
Respiratory System-General; Methods *16001
 Respiratory System-Physiology and Biochemistry *16004
 Muscle-Physiology and Biochemistry *17504
 BC Hominidae 86215

L88 ANSWER 2 OF 5 BIOSIS COPYRIGHT 1998 BIOSIS
 AN 97:335862 BIOSIS
 DN 99635065
 TI ¹³C-methacetin breath test by using an isotope-selective non-dispersive infrared spectrometer: Normal values, influence of age and gender and intraindividual reproducibility.
 AU Pfaffenbach B; Goetze O; Adamek R J
 CS Dep. Med., St. Josef-Hospital, Ruhr-Univ., 44791 Bochum, Germany
 SO Digestive Disease Week and the 97th Annual Meeting of the American

Gastroenterological Association, Washington, D.C., USA, May 11-14, 1997. Gastroenterology 112 (4 SUPPL.). 1997. A1358. ISSN: 0016-5085

DT Conference

LA English

PR Biological Abstracts/RRM Vol. 049 Iss. 008 Ref. 141630

ST MEETING ABSTRACT; HUMAN; ADULT; HEALTHY SUBJECT; MIDDLE AGE; MALE; FEMALE; AGED; CARBON-13-METHACETIN BREATH TEST; ISOTOPE-SELECTIVE NON-DISPERSIVE IR SPECTROMETER; ISOTOPE-SELECTIVE NON-DISPERSIVE IR SPECTROMETRY; NORMAL VALUES; AGE; GENDER; INTRAINDIVIDUAL REPRODUCIBILITY; DIGESTIVE DISEASE; METHODOLOGY; STATISTICAL ANALYSIS; LIVER FUNCTION; OXIDASE; HEPATIC MIXED FUNCTION ACTIVITY; PHARMACOLOGICAL METHOD; **ANALYTICAL METHOD**; EQUIPMENT; RADIOLOGIC METHOD; DIGESTIVE SYSTEM DISEASE

RN 9035-73-8 (OXIDASE)

CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
 Genetics and Cytogenetics-Sex Differences *03510
 Mathematical Biology and Statistical Methods *04500
 Radiation-Radiation and Isotope Techniques *06504
Biochemistry-Gases *10012
 Biochemical Methods-General *10050
 Biochemical Methods-Proteins, Peptides and Amino Acids *10054
 Biochemical Methods-Minerals *10059
 Biochemical Studies-General *10060
 Biochemical Studies-Proteins, Peptides and Amino Acids *10064
 Biochemical Studies-Minerals *10069
Biophysics-General Biophysical Techniques *10504
 Enzymes-Methods *10804
 Enzymes-Physiological Studies *10808
 Anatomy and Histology, General and Comparative-Radiologic Anatomy *11106
Pathology, General and Miscellaneous-Diagnostic *12504
 Metabolism-Proteins, Peptides and Amino Acids *13012
 Digestive System-General; Methods *14001
 Digestive System-Physiology and Biochemistry *14004
 Digestive System-Pathology *14006
Respiratory System-General; Methods *16001
 Respiratory System-Physiology and Biochemistry *16004
 Respiratory System-Pathology *16006
 Reproductive System-General; Methods *16501
 Reproductive System-Physiology and Biochemistry *16504
 Pharmacology-Clinical Pharmacology *22005
 Pharmacology-Digestive System *22014
 Pharmacology-Respiratory System *22030
 Gerontology *24500
 Developmental Biology-Embryology-Morphogenesis, General *25508
 Public Health-Public Health Administration and Statistics *37010
 Public Health-Health Services and Medical Care *37012

BC Hominidae 86215

L88 ANSWER 3 OF 5 BIOSIS COPYRIGHT 1998 BIOSIS

AN 94:92152 BIOSIS

DN 97105152

TI Within breath changes in respiratory impedance and correlations with forced spirometry during bronchochallenge in normal and asthmatic subjects.

AU MacLeod D; Van Der Putten W; Prichard J
 Choon Koh STIC/LIBRARY 308-4133

CS Dep. Clin. Med., Trinity Coll., St. James's Hosp., Dublin, UK
 SO British Thoracic Society Summer Meeting, Dublin, Ireland, June
 30-July 2, 1993. Thorax 48 (10). 1993. 1068-1069. ISSN: 0040-6376
 DT Conference
 LA English
 ST ABSTRACTS; HUMAN; METHACHOLINE; DIAGNOSTIC-DRUG; BRONCHOCONSTRICTION;
 STATISTICS; ANALYTICAL METHOD; DIAGNOSTIC METHOD
 RN 55-92-5 (METHACHOLINE)
 CC **General Biology-Symposia, Transactions and Proceedings of
 Conferences, Congresses, Review Annuals 00520**
 Mathematical Biology and Statistical Methods *04500
Biochemistry-Gases 10012
 Biochemical Studies-General 10060
Biophysics-General Biophysical Techniques 10504
Pathology, General and Miscellaneous-Diagnostic *12504
 Metabolism-Energy and Respiratory Metabolism 13003
Respiratory System-General; Methods *16001
 Respiratory System-Physiology and Biochemistry *16004
 Respiratory System-Pathology *16006
 Pharmacology-Drug Metabolism; Metabolic Stimulators *22003
 Pharmacology-Respiratory System *22030
 Immunology and Immunochemistry-Immunopathology, Tissue Immunology
 *34508
 Allergy *35500
 Public Health-Public Health Administration and Statistics *37010
 BC Hominidae 86215

L88 ANSWER 4 OF 5 BIOSIS COPYRIGHT 1998 BIOSIS
 AN 94:92151 BIOSIS
 DN 97105151
 TI Oxygen saturation during methacholine challenge in a mixed
 population.
 AU Renwick D S; Connolly M J
 CS Manchester Royal Infirmary, Manchester, UK
 SO British Thoracic Society Summer Meeting, Dublin, Ireland, June
 30-July 2, 1993. Thorax 48 (10). 1993. 1068. ISSN: 0040-6376
 DT Conference
 LA English
 ST ABSTRACTS; HUMAN; METHACHOLINE; DIAGNOSTIC-DRUG; BRONCHOCONSTRICTION;
 STATISTICS; ANALYTICAL METHOD; DIAGNOSTIC METHOD
 RN 55-92-5 (METHACHOLINE)
 7782-44-7 (OXYGEN)
 CC **General Biology-Symposia, Transactions and Proceedings of
 Conferences, Congresses, Review Annuals 00520**
 Mathematical Biology and Statistical Methods *04500
Biochemistry-Gases 10012
 Biochemical Studies-General 10060
Biophysics-General Biophysical Techniques 10504
Pathology, General and Miscellaneous-Diagnostic *12504
 Metabolism-Energy and Respiratory Metabolism 13003
Respiratory System-General; Methods *16001
 Respiratory System-Pathology *16006
 Pharmacology-Drug Metabolism; Metabolic Stimulators *22003
 Pharmacology-Respiratory System *22030
 Public Health-Public Health Administration and Statistics *37010
 BC Hominidae 86215

L88 ANSWER 5 OF 5 BIOSIS COPYRIGHT 1998 BIOSIS
AN 92:316996 BIOSIS
DN BR43:17721
TI PREOPERATIVE PREDICTION OF MORBIDITY FOLLOWING LOBECTOMY.
AU DALES R E; DIONNE G; SCHWEIZER I
CS DEP. MED., UNIV. OTTAWA, CAN.
SO 1992 INTERNATIONAL CONFERENCE OF THE AMERICAN LUNG ASSOCIATION AND
THE AMERICAN THORACIC SOCIETY, MIAMI BEACH, FLORIDA, USA, MAY 17-20,
1992. AM REV RESPIR DIS 145 (4 PART 2). 1992. A306. CODEN: ARDSBL
ISSN: 0003-0805
DT Conference
LA English
ST ABSTRACT HUMAN SPIROMETRY MODIFIED DYSPNEA INDEX SICKNESS IMPACT
PROFILE EXERCISE TESTING STATISTICS THERAPEUTIC METHOD
ANALYTICAL METHOD
CC **General Biology-Symposia, Transactions and Proceedings of**
Conferences, Congresses, Review Annuals 00520
Mathematical Biology and Statistical Methods *04500
Behavioral Biology-Human Behavior 07004
Biochemistry-Gases 10012
Biophysics-General Biophysical Techniques *10504
Anatomy and Histology, General and Comparative-Surgery *11105
Physiology, General and Miscellaneous-Stress *12008
Physiology, General and Miscellaneous-Exercise and Physical Therapy
*12010
Pathology, General and Miscellaneous-Diagnostic *12504
Pathology, General and Miscellaneous-Therapy *12512
Metabolism-Energy and Respiratory Metabolism *13003
Respiratory System-General; Methods *16001
Respiratory System-Pathology *16006
Psychiatry-General; Medical Psychology and Sociology *21001
BC Hominidae 86215